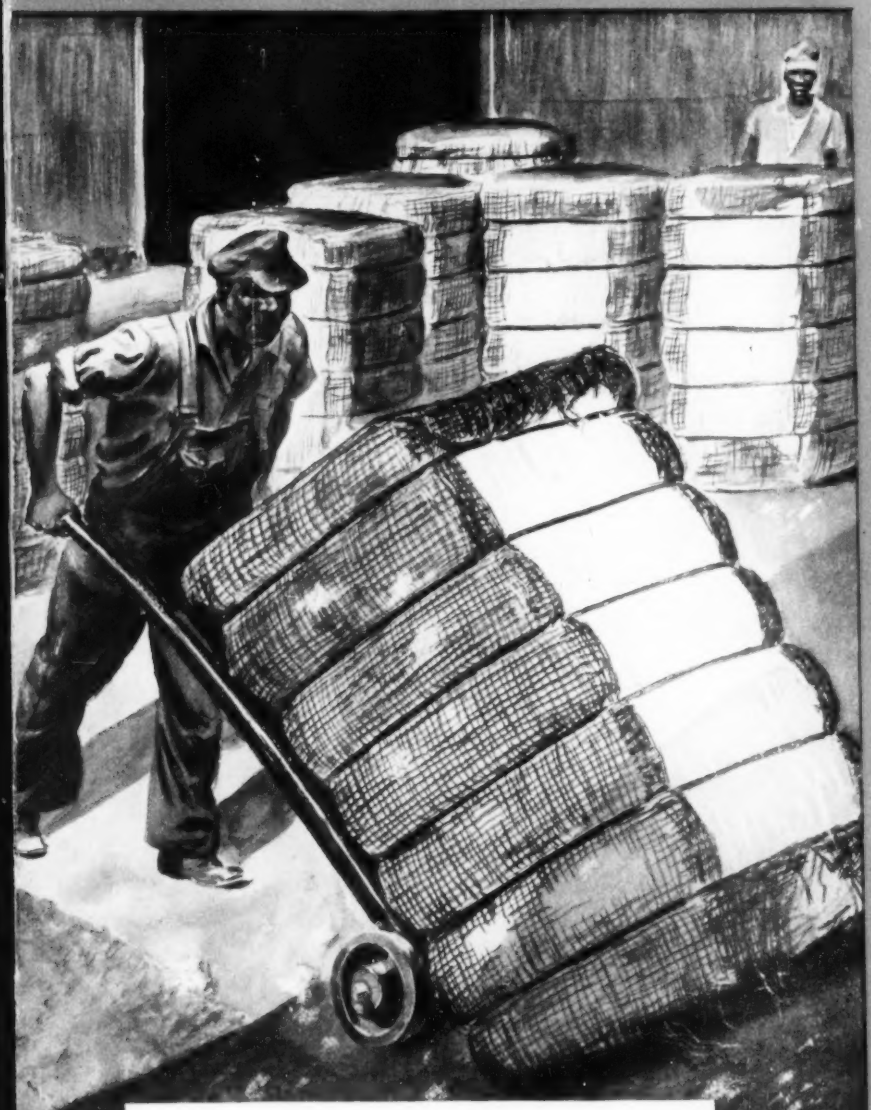
# TEXTILE WORLD

*A McGraw-Hill Publication* ---------- **JANUARY • 1953**



1953 COTTON-FIBER TABLE
Starts on page 85

WHAT TO EXPECT FROM 1952 COTTON
Starts on page 101

## ARTICLES IN THIS ISSUE DISCUSS:


What About New England? (Editorial) 4
Textile World Is 65 Years Old..... 83
84-In. Woolen Cards Pay Off..... 84
Cotton-Fiber Table ..... 85
What To Expect From 1952 Cotton...101
Reduce Press-Offs With This System.104
How To Apply Resins to Spun Rayons.106
New Era Steam-Circulating System..107
Slashing Discussed at Georgia TOE..108
Shuttleless Narrow-Fabric Loom.....110
Reduce Seconds Caused by Barre Cloth .....112
Making Better Cotton Rugs.....114
Check Your Heating System.....116
Modernization at Standard Knitting..118
Are Your Top Rolls in Top Shape?....120
Tables Make Fabric-Matching Easier..122
Quality Control at E-Z Mills.....124
Dual-Reel Continuous-Chain Washers.126
Careful Handling, Good Garnetting...126
Synchronous Motors .....131
Alabama Mill Men Discuss Maintenance .....133
Review of Warp-Sizing Development.137
Cone Mills Reduces Handling Time...137
Synthetics on Woolen System.....141
Diesel-Driven Generator .....143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**INDEX to ADVERTISERS**
**Keyed by PRODUCTS**
**See page 283**

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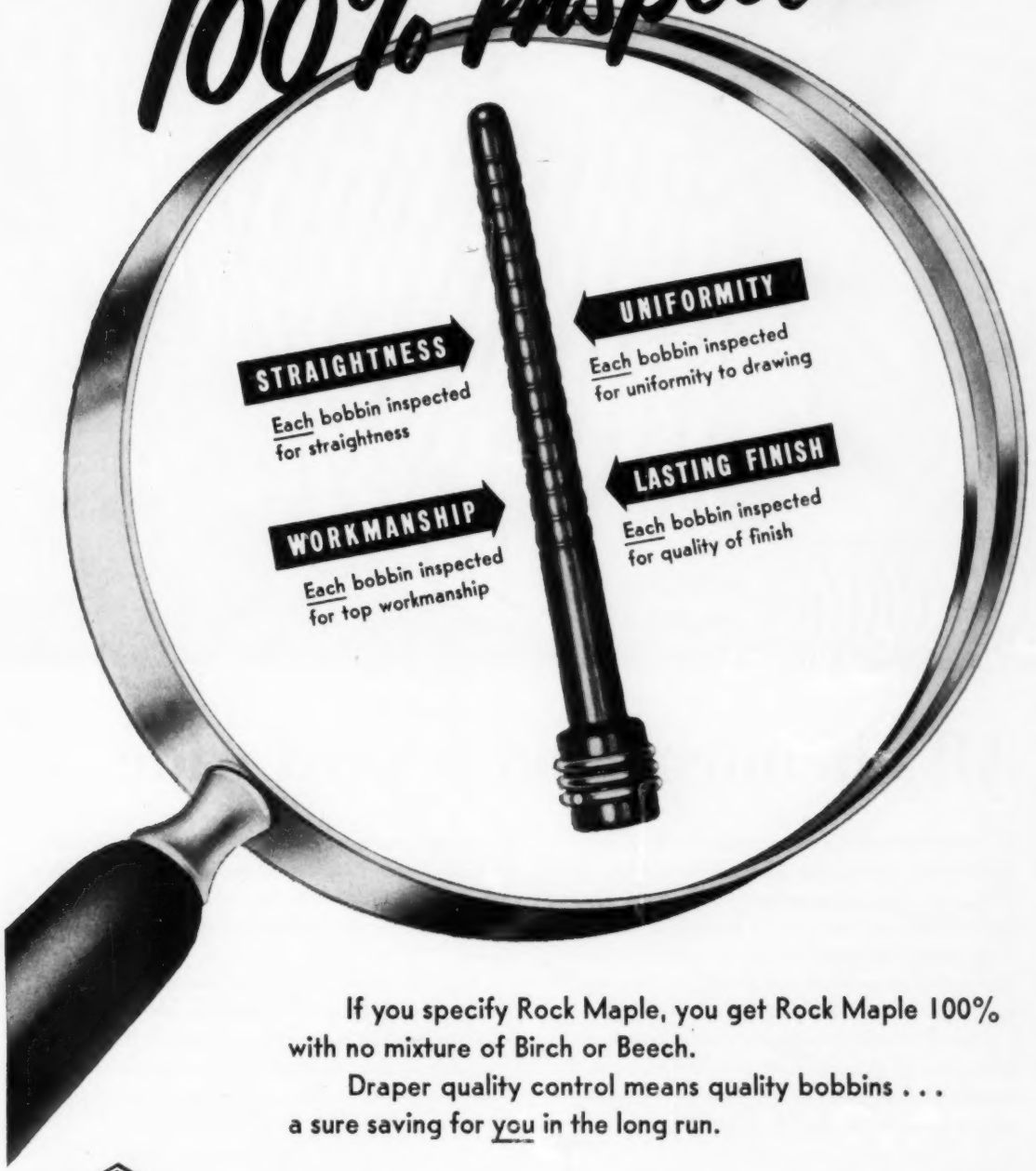


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## DEPARTMENTS


| | |
|---|---|
| Editorial | 4 |
| Exploring the Textile Community | 164 |
| Kinks and Short-Cuts | 166 |
| News About Men | 267 |
| News About Mills | 262 |
| News About Suppliers | 256 |
| News of the Month | 250 |
| Obituary | 272 |
| Pointers for Supervisors | 162 |
| Questions and Answers | 242 |
| Reader Service | 177 |
| Round Table | 161 |
| Textile Equipment News | 145 |
| Textile Calendar | 248 |
| Textile Tickles | 161 |
| Advertisers' Index | 297 |


# Table of Contents


JANUARY • 1953
Vol. 103 No. 1


KEYED ACCORDING TO READER INTEREST


## Feature Articles

| SPINNER | WEAVER | KNITTER | FINISHER | ENGINEER | | PAGE | COTTON | SYNTHETICS | WOOL |
|---|---|---|---|---|---|---|---|---|---|
| Y | W | K | F | E | What About New England? *(Editorial)* | 4 | C | S | W |
| Y | W | K | F | E | TEXTILE WORLD Is 65 Years Old | 83 | C | S | W |
| Y | | | | | 84-In. WOOLEN CARDS Pay Off | 84 | | S | W |
| Y | | | | | 1953 COTTON-FIBER Table | 85 | C | | |
| Y | W | K | | | What You Can Expect From 1952 COTTON | 101 | C | | |
| | | K | | | Reduce PRESS-OFFS | 104 | | S | |
| | | | F | | How To Apply RESINS To Spun Rayons | 106 | | S | |
| | | | F | E | New Era With STEAM-CIRCULATOR | 107 | C | S | W |
| | W | | | | SLASHING Problems Discussed | 108 | C | S | W |
| | W | | | | Shuttleless NARROW-FABRIC Loom | 110 | C | | |
| | W | | | | Reduce Seconds Caused by BARRE CLOTH | 112 | C | | |
| Y | W | | F | | Changes Make Better COTTON RUGS | 114 | C | | |
| | | | | E | Check Your HEATING SYSTEM | 116 | C | S | W |
| | | K | | | Standard KNITTING Stays Ahead | 118 | C | S | W |
| Y | | | | | Are Your TOP ROLLS in Top Shape? | 120 | C | S | W |
| Y | W | K | F | E | Fiber CONVERSION-FACTOR Tables | 122 | C | S | W |
| | | K | | | Simple QUALITY CONTROL Works at E-Z | 124 | C | S | W |
| | | | F | E | Dual-Reel Continuous-Chain WASHERS | 126 | C | S | W |
| Y | | | | | Careful Handling Means Good GARNETTING | 126 | | | W |
| | | | | E | Synchronous Motors Improve POWER FACTOR | 131 | C | S | W |
| | | | | E | MAINTENANCE Practices Compared | 133 | C | S | W |
| | W | | | | Review of WARP-SIZING Developments | 137 | C | S | W |
| Y | W | K | F | E | HANDLING Time Reduced at Cone Mills | 139 | C | S | W |
| Y | | | | | SYNTHETICS on Woolen System | 141 | | S | W |
| | | | | E | Plant Used Diesel-Driven GENERATOR | 143 | C | S | W |

## Textile Equipment News

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | W | | | | Two LOOMS Designed To Mix Filling | 145 | C | S | W |
| | | | F | | Drying and Wet-Processing RANGES | 146 | C | S | |
| Y | W | K | | | New DESIGN COUNTER | 148 | C | S | W |
| | | | F | | WASHER Improves Rayon-Fabric Boil-Off | 148 | | S | |
| | | | | E | ELECTROSTATIC Charges Measured | 150 | C | S | W |
| | | | F | | Doctor-Blade GRINDER | 150 | C | S | |
| | W | | | | New Size COOKER-HOMOGENIZER | 150 | C | S | W |
| | | | F | | STEAM BRUSH for Use in Clearing | 152 | C | S | W |
| | | | | E | Plug-In HUMIDITY CONTROLLER | 152 | C | S | W |
| Y | W | K | F | | Fiber, Yarn, and Fabric VIEWER | 154 | C | S | W |
| Y | | | | | Instrument for YARN-QUALITY CONTROL | 154 | C | S | W |
| Y | | | | | Flat-Setting MICROSCOPE | 156 | C | S | |
| | | | | E | HUMIDIFIER Throws Vapor Four Ways | 156 | C | S | W |
| Y | | | | | OSCILLATING FAN Cleans Half-Side | 156 | C | S | W |
| | W | | | | LOOM-BRAKE RELEASE for Constant Tension | 158 | C | S | W |
| | | | | E | Direct MOTOR CONTROL Regulates Speed | 158 | C | S | W |
| | W | | | | Laminated ROLLED TUBING for Winding | 186 | | S | |
| Y | W | K | F | E | New FLOOR-MARKING Applicator | 188 | C | S | W |
| | W | | | | Axminster-Carpet JACQUARD MOTION | 190 | C | S | W |
| | | | F | | Portable BUTT-SEAM SEWING Machine | 194 | C | S | W |

## Kinks and Short-Cuts

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | W | | | | Try Cutting HARNESS FRAMES | 166 | C | S | W |
| Y | | | | | Stop Motion for RIBBON LAPPERS | 166 | C | S | |
| Y | W | K | F | E | Correct POWER-TOOL Assembly | 166 | C | S | W |
| Y | W | K | F | E | Easy Way To Clean KNITTING NEEDLES | 168 | C | S | W |
| Y | W | | | | Improve SIZE With a Centrifugal Pump | 170 | C | S | W |
| Y | W | K | F | E | Easy Way To WAX FLOORS | 170 | C | S | W |
| | W | | | | Improve Drop-Box PICKER Wear | 170 | C | S | W |
| | W | | | | Don't Throw Away Broken LAY-END PLATES | 172 | C | S | W |
| Y | | | | | How We Test Our FLYERS | 172 | C | S | W |
| | W | | | | White REED-CAP Bottoms Help Weaves | 172 | C | S | W |
| | | K | | | Reversing Machine Is For FLEECY FABRICS | 174 | C | S | W |
| | W | | | | Plate on CLOTH-ROLL STAND Reduces Waste | 174 | C | S | W |
| Y | | | | | Photographic Standards for YARNS | 174 | | S | W |

THE *Long-Range* VIEW

# What About New England?

**This month seems** an appropriate time to ask: What about New England?

The committee appointed by the governors of the six New England states to study the textile industry turned in its report in November; the New and Fair Dealers, state and federal, who encouraged unionization in New England are through; and the economic law of production efficiency holds sway in the industry. It seems certain that mills will be fettered less by government, unions will receive only impartial treatment, and markets will go to the mills that make good cloth at the cheapest price. So, more than at any time in the last twenty years mill men, beginning this month, are on their own.

New England starts out at a disadvantage, partly from the press of circumstances and partly from mill managements' own fault.

You can pick up any of the numerous reports on the New England textile industry and draw a blueprint for improving the competitive position of New England mills. Several things are needed.

**1. Plant Modernization**

Cotton-type mills and finishing plants generally have done a good job of modernizing their plants and equipment in the last few years. But even in these mills there is not the surge of continuous modernization you find to be the rule in Southern mills.

Woolen and worsted mills are living on borrowed time. J. P. Stevens is running wool in Georgia, Deering Milliken in South Carolina. Burlington recently bought Peerless Woolen in Georgia. The new wool-like fibers are coming into better supply. Government contracts for clothing are leveling off.

Unless New England's woolen and worsted mills modernize to increase their efficiency and lower their costs, many of them will not be in business many years longer.

**2. Workloads and Pay Rates**

These factors are New England's favorite excuses for noncompetitive operations. They are, certainly, a real factor; and something must be done about them if New England mills are to survive.

The November report to the governors contained three highly significant statements:

a. "Wages in New England have in most industries declined below the national level, but in textiles they are above the national rates."

b. "The presence of unions in New England and their absence as a rule in the South account for a large difference in work assignments."

c. "Our Recommendations . . . Unionism should be accepted as a vital necessary force in the South as it is in New England."

That recommendation is utter nonsense.

What these three statements say, in other words, is: New England mills have given in to unions far more than other New England industries have; unions won't let people take a fair workload; Southern mills should accept the evils unions have foisted off on New England so that New England can be competitive.

If mills are to remain in New England, they've got to break the strangle hold of unions. In particular, the CIO technique of bargaining on an industrywide basis must be stopped. Also, penalties for improvement must be stopped. Nothing could be more ridiculous or retard progress more than to force mills to pay 4 to 6¢ an hour more for a weaver to run X-model looms than E-model looms with the same workload, just because X-models are improved machines.

**3. Human Relations**

There are mills in New England that maintain the finest relations with workers and the community. There are also mills that have migrated to the South and have promptly developed atrocious worker and community relations. Geography is no solution. The absolute first requirement for satisfactory workloads, successful opposition to unions, and cooperation from workers in modernization and efficient operation is fair, sincere, dignified dealings with people.

January 1953 is an excellent time for New England mill men to look seriously at their human relations and their own attitudes.

**There are many other factors** that contribute to New England's troubles; but if the three discussed here are solved, the others would seem trifling.

Obviously, any action taken on the problems mentioned must be started and carried through by mill men themselves. If they are not willing to modernize their plants, oppose the unions' impossible demands, and develop passable human relations, there is no hope for them. Neither New England nor the South wants them.

*A. M. Thomas*

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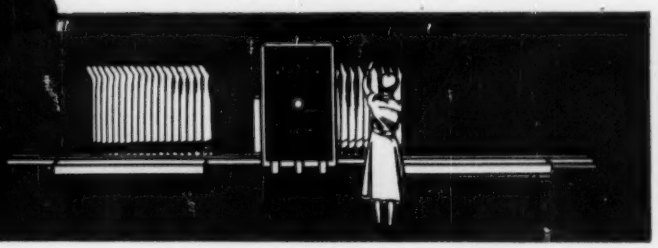

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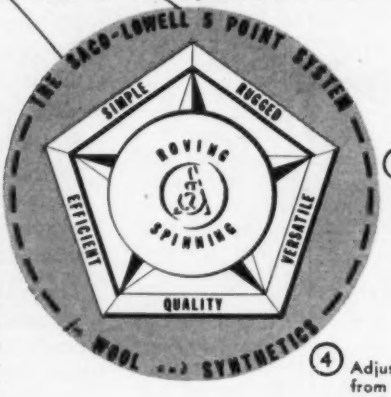


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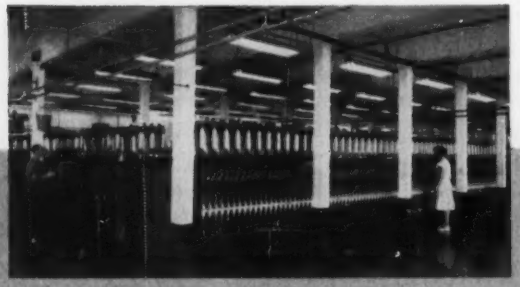

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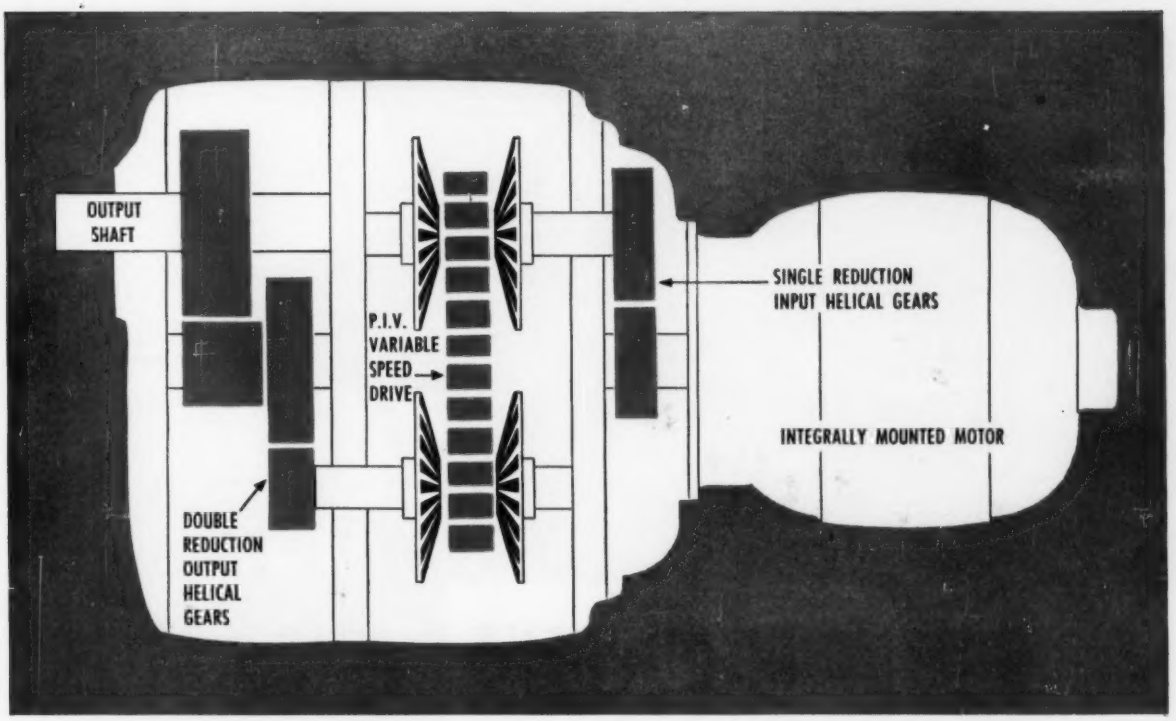


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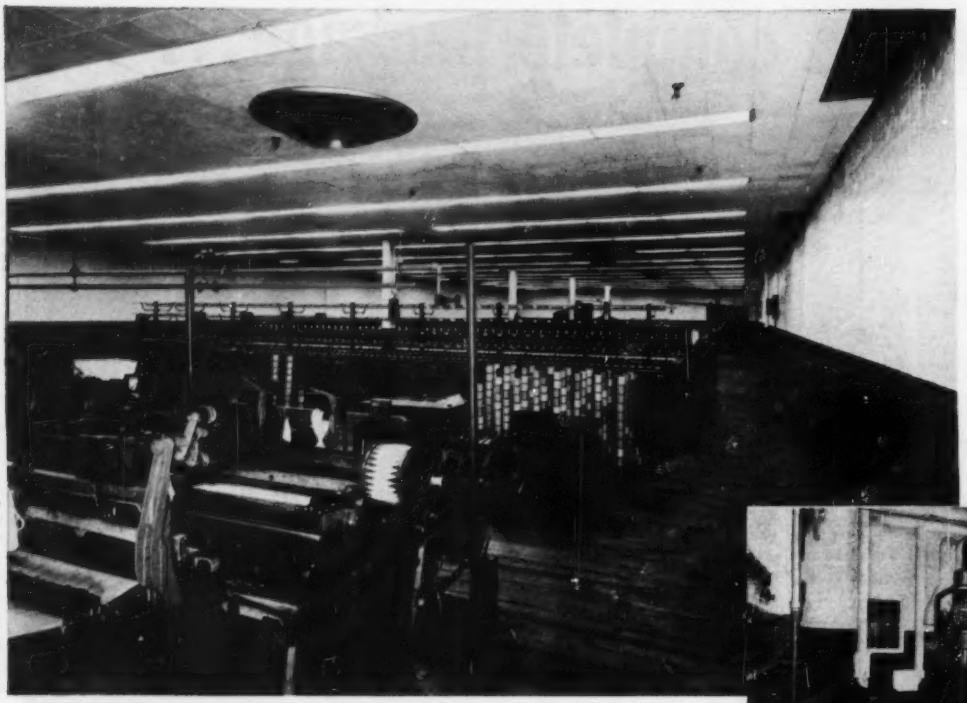
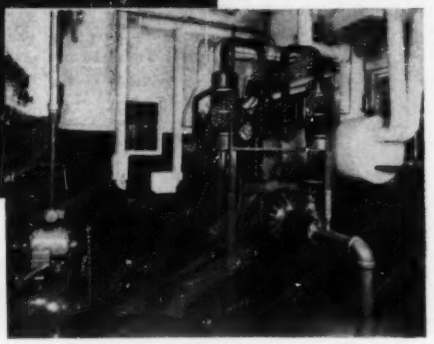
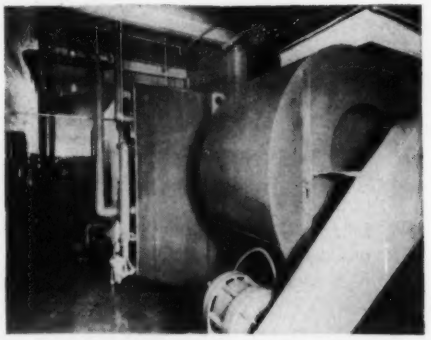


*Pilot Plant of Pepperell Manufacturing Company, Lindale, Ga.*



*At the heart of the pilot plant is this air conditioning equipment room — containing compressors, water chiller and cool water circulating pump.*



*Apparatus room contains air blower and washer*

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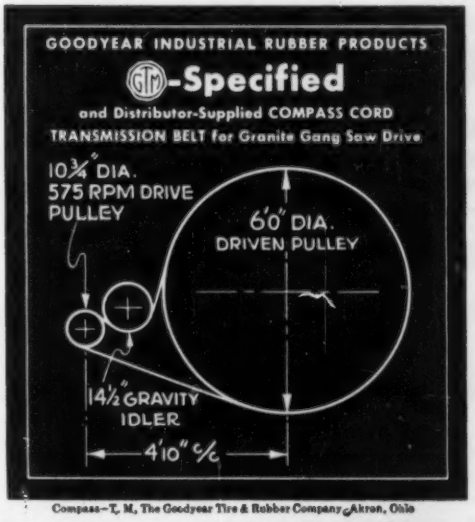
# DOUBLED BELT LIFE

## by consulting Goodyear Distributor

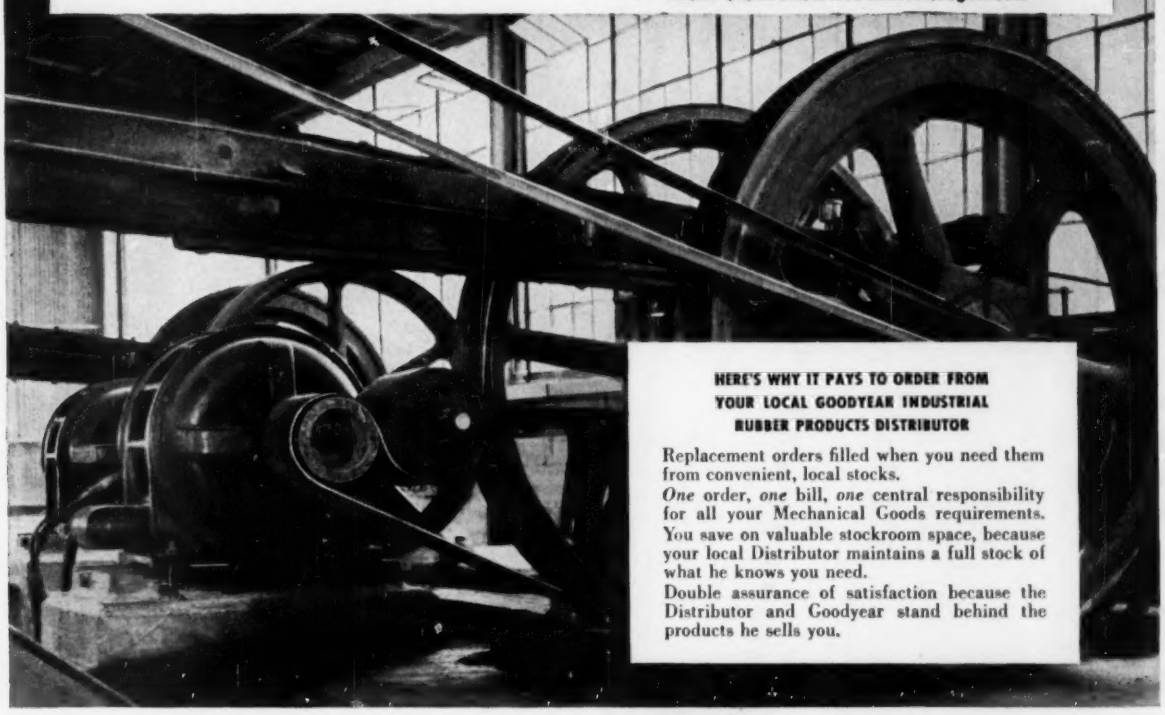
OPERATOR of this granite gang saw called a Goodyear Distributor for help with his flat belt drive. The Distributor came, bringing along the G.T.M.—Goodyear Technical Man—to analyze the drive and make belt recommendations.

The G.T.M. studied the drive, made his engineering recommendations, specified the belts to handle the problem. Result: the COMPASS Flat Belts he recommended delivered two years' service—*double the best previous record*. The Distributor took over—now stocks the exact replacement belts the operator needs—can deliver them right out of stock at any time.

You can get service like this, too—specification of the *right* product and on-call delivery—simply by calling your nearest Goodyear Industrial Rubber Products Distributor. Look for him in the yellow pages of your Telephone Directory—handling Hose, Flat Belts, V-Belts, Packing, Tank Lining, Rubber-Covered Rolls—or write for an introduction to Goodyear, Mechanical Goods Division, Akron 16, Ohio.




Compass—T. M. The Goodyear Tire & Rubber Company, Akron, Ohio



**HERE'S WHY IT PAYS TO ORDER FROM YOUR LOCAL GOODYEAR INDUSTRIAL RUBBER PRODUCTS DISTRIBUTOR**

Replacement orders filled when you need them from convenient, local stocks.

*One* order, *one* bill, *one* central responsibility for all your Mechanical Goods requirements.

You save on valuable stockroom space, because your local Distributor maintains a full stock of what he knows you need.

Double assurance of satisfaction because the Distributor and Goodyear stand behind the products he sells you.

# GOODYEAR

## THE GREATEST NAME IN RUBBER

*We think you'll like "THE GREATEST STORY EVER TOLD"—every Sunday—ABC Radio Network THE GOODYEAR TELEVISION PLAYHOUSE—every other Sunday—NBC TV Network*

# OPPORTUNITY for mills dyeing wool!

## CERTIFICATE OF LICENSE

issued to

Chinonsky Textile Co.

WHEREAS, Victor Chemical Works, having its main office at 141 W. Jackson Boulevard, Chicago 4, Illinois, is the owner of United States Patents numbers 2,590,847 and 2,593,850, both relating to the dyeing of wool in baths containing dibasic ammonium phosphate;

And whereas, Victor Chemical Works is desirous of improving such dyeing operations by promoting the use of the products and processes of such patents;

Now, therefore, Victor Chemical Works grants unto Chinonsky Textile Co.

a free, nonexclusive, nontransferable license to practice the processes and use the products of said patents throughout the United States, its territories and possessions, from the date hereof, and throughout the life of these patents.

VICTOR CHEMICAL WORKS

Roman Chinonsky
President

Irene C. Chinonsky
Secretary

VICTOR CHEMICAL WORKS CORPORATE SEAL CHICAGO, ILL.

Dec 6, 1941
Date

## Victor Diammonium Phosphate Process Offers 9 Advantages

1. Greatly improved conditioning of the cloth before dyeing begins.
2. A proper starting alkalinity to provide for dye penetration.
3. A gradual and automatic increase in acidity that improves fixation and dye exhaust.
4. Uniformity of process.
5. Increased levelness of dyeing.
6. Efficient use of dyestuff.
7. Saves time and money because of fewer rejects.
8. Ready availability of diammonium phosphate of highest quality, and at low cost.
9. Process requires no major changes . . . standard equipment can be used.

Royalty-free licenses will be issued to companies desiring to use the process and Victor's textile specialists will assist you in the installation. Please write on your company letterhead.

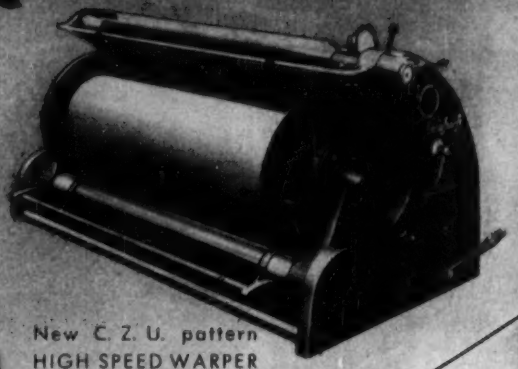
**VICTOR CHEMICAL WORKS**
141 West Jackson Boulevard
Chicago 4, Illinois

**VICTOR**
Dependable Name in Chemicals
for 55 Years

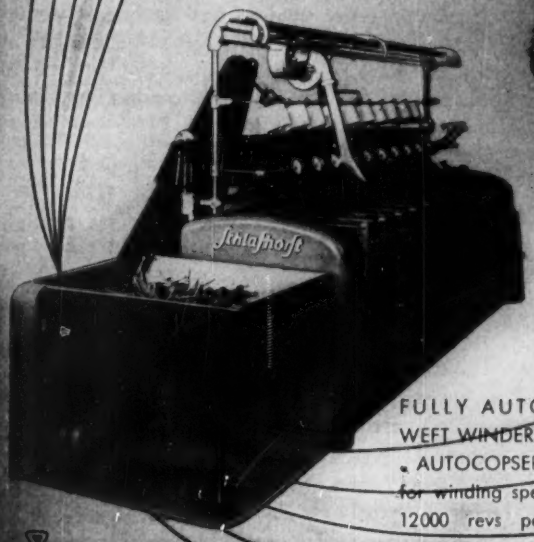
MODERN MACHINERY FOR WINDING AND WARPING

Schlafhorst

NEW GROOVED CYLINDER
CONE AND CHEESE WINDER
B. K. N. PATTERN
SELF-THREADING
for winding speeds up to
1300 yards per minute



New C. Z. U. pattern
HIGH SPEED WARPER
Extraordinary production
Greatest simplicity



We also make CONE CREELS
of various types, such as f. i.
MAGAZINE CREELS
and TRUCK CREELS
with electric detectors of our
eyeboard system

FULLY AUTOMATIC
WEFT WINDER (QUILLER)
AUTOCOPSER A. S. E.
for winding speeds up to
12000 revs per minute

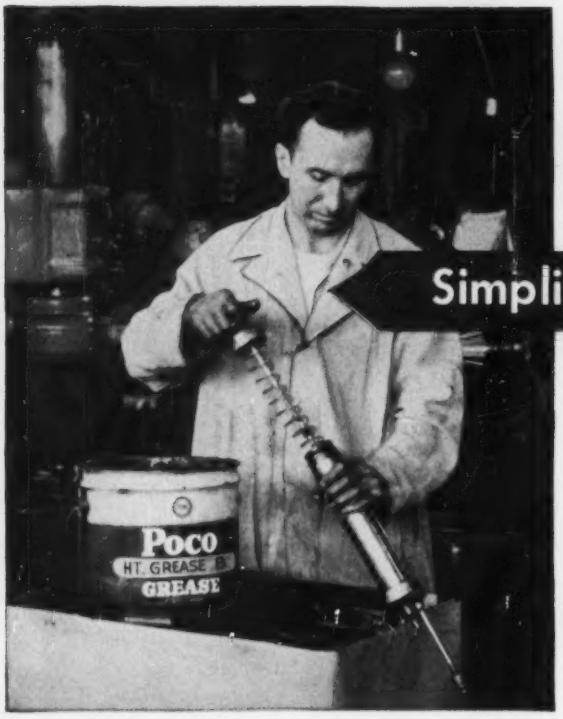
W. SCHLAFHORST & CO · M.GLADBACH · GERMANY

# HUNDREDS OF MACHINES—BUT ONLY ONE GREASE!

## Read how another manufacturer simplifies and saves with

# PURE OIL INDUSTRIAL LUBRICANTS

BE SURE PURE WITH PURE




A large midwestern metal-working plant produces chrome-plated trim (hub caps, grills, etc.) for the automotive industry. All types of metal-working equipment —400-ton presses, shears, drills, lathes, roller-levelers and grinders—are used as well as huge chrome-plating machines. Yet *only one grease*—Pure Oil's POCO HT GREASE B—and one dispenser is used for *all* applications! And in 3 years there has been no down time due to lubrication failures.

## Simplify and Save

Here at Pure Oil we specialize in industrial oils and greases designed to do several *different* jobs—instead of one specific job.

And to do each job equally well.

For this reason, our technical experts can nearly always help you to reduce your lubricants inventory . . . simplify your lubricating procedure . . . minimize waste and error.

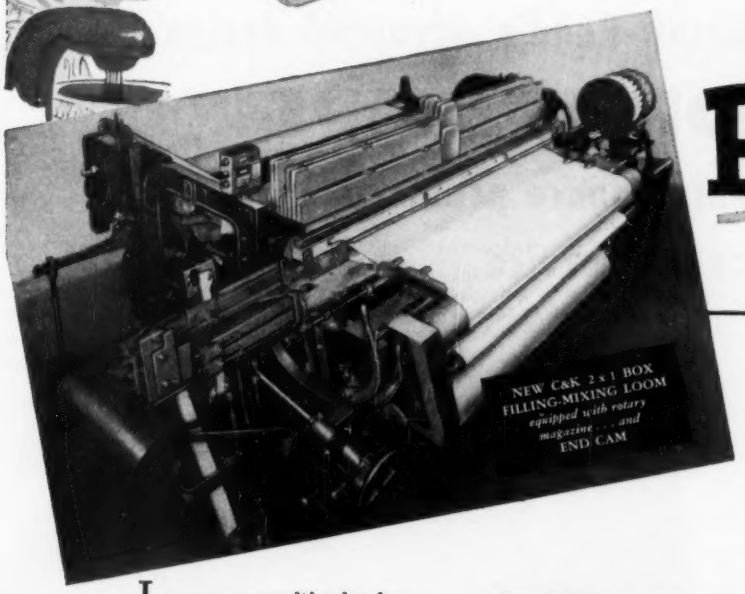
One of our technical experts will be glad to give you full details, right away. Just call your local Pure Oil office* or write:

**THE PURE OIL COMPANY Industrial Sales**
**35 E. Wacker Drive, Chicago 1, Illinois**

**Be *sure* with Pure**

*Sales offices in more than 500 cities, including: Atlanta, Georgia • Birmingham, Alabama • Charlotte, North Carolina • Chattanooga, Tennessee • Columbus, Ohio • Hattiesburg, Mississippi • Indianapolis, Indiana • Jacksonville, Florida • Madison, Wisconsin • Memphis, Tennessee • Miami, Florida • Minneapolis, Minnesota • New York, New York • Norfolk, Virginia • Parkersburg, West Virginia • Pensacola, Florida • Seaford, Delaware

# Sweeten Your Profits!

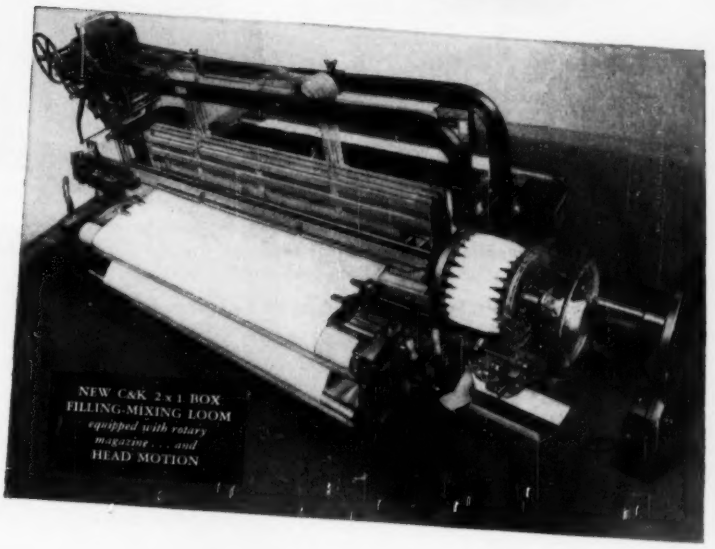



## . . . with C&K's Newest Filling-Mixing Looms

Leave your multi-color looms to do their own job. And put in these new C&K Single-Purpose Filling-Mixing Looms to fill out your fabric picture. Here's the story:

C&K has always built *multi-purpose* Filling-Mixing Looms with the Call Box feature. And now C&K has *single-purpose* FM Looms that weave anything in single color, 2 x 1 . . . with all the important economies that only this type of loom can offer . . . and at lower initial cost than you would imagine for a loom that offers all these features: Rotary magazine . . . batwing or cone picking . . . any type of shedding mechanism . . . dobby head motion or end-cam . . . 20% to 25% more yards of good cloth . . . lower maintenance . . . lighter lay . . . A-girts on bottom shafts . . . and many other features.

So if you want the greatest versatility for *your* mill . . . then supplement your weaveroom now with the looms you need from the WORLD'S LONGEST LINE OF FILLING-MIXING LOOMS . . . multi-purpose or single-purpose . . . or both. See C&K, without delay.




This "Invisible Trademark" Stands Back of the Trademarks of the World's Finest Woven Fabrics

*Crompton & Knowles* LOOM WORKS

WORCESTER 1, MASSACHUSETTS, U. S. A.

Philadelphia, Pa. • Charlotte, N. C. • Allentown, Pa. • Crompton & Knowles Jacquard & Supply Co., Pawtucket, R. I.



For more information, write direct or use Reader Service post card.

# No Leakage
# No Lubrication

## That's why Ingersoll-Rand's advanced design

## DMV and DHV PUMPS

## can end your maintenance problems in general hydraulic service

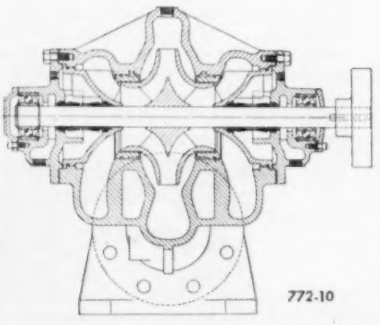
**SINGLE-STAGE**
**DOUBLE-SUCTION**
**HEADS TO 340 FT.**
**CAPACITIES TO 2100 GPM**
**TEMPERATURES TO 200° F.**

- **Extra Protection Against Shaft Leakage** through use of efficient *double* shaft seals in place of usual, packed stuffing boxes.
- **Double Shaft Seals** end stuffing box maintenance.
- **Longer Seal Life** assured with *double* shaft seals. Clean sealing water is injected to protect sealing surfaces when pumping gritty liquids.
- **Sealed, Cartridge-Type Bearings** require no lubrication throughout their service life.

These advanced design features make the DMV line the simplest and most maintenance-free single-stage double-suction pumps ever developed by Ingersoll-Rand for general hydraulic service. Ask your nearest I-R representative for complete information on this latest pumping development.

✔ Double Mechanical Shaft Seals

✔ Permanently Lubricated Ball Bearings



772-10

**Ingersoll-Rand**

Cameron Pump Division
11 Broadway, New York 4, N. Y.

COMPRESSORS • PUMPS • AIR AND ELECTRICAL TOOLS • VACUUM EQUIPMENT • ROCK DRILLS • CONDENSERS • GAS AND DIESEL ENGINES



For more information, write direct or use Reader Service post card.

# Only B. F. Goodrich makes the grommet belts that cut costs 20 to 50%!

## *Save 3 ways! Investigate today! Write or mail coupon*

You save belt costs because belts last longer, save production costs because machines keep running with fewer interruptions, save maintenance costs because they need less attention.

Patented grommet belts by B. F. Goodrich represent the only basic change since invention of the V belt. Belts last 20 to 50 per cent longer, depending on service. (The more severe the service, the greater the increase over ordinary belts.) Grommet belts have more rubber; they're more flexible, give better grip, less slip.

### *What is a grommet?*

A grommet is like a giant cable except that it's *endless*—a cord loop built up by winding heavy cord on itself. There is no overlapping cord *section* as in all ordinary belts. Most belt failures occur in these sections where cords overlap!

### *All cords put to work*

Each of the two grommets and every part of a grommet carry their share of the load. In ordinary belts under high tension the center cords "dish" because tension is greater near the driving faces. Dished cords are doing less work, not pulling their share. Grommet belts have no center cords, there is no dishing—therefore much more strength in proportion to cord volume—and less stretch. Grommet belts stretch, on an average, only about one-third as much as ordinary belts.

### *Better grip, less slip*

Grommet belts have more rubber in relation to belt size. Without any stiff overlap, they're more flexible, grip pulleys better. Size for size, grommet belts give ⅓ more gripping power, pull heavier loads with a higher safety factor. Because there is less slip, there is also less surface wear.

### *Send for proof*

Send the coupon for a set of reports telling users' experiences and showing actual installations where grommet belts outlasted all others. Some typical cases:

". . . within a few days ordinary belts had stretched . . . After six months of 24-hour-a-day service BFG grommet belts haven't stretched at all . . ."

"Ordinary belts lasted only 5 or 6 weeks . . . B. F. Goodrich grommet belts are in their sixth month of service . . ."

"Previous belts suffered from shock loads, wore out fast . . . BFG grommet belts have been in service 2 years with no shut-downs..."

There are hundreds of cases like these.

### *They cost no more*

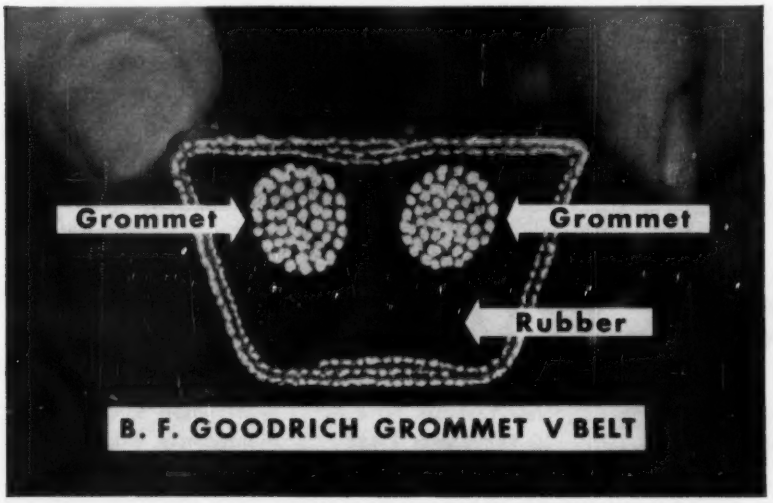
BFG grommet belts cost not one cent more than others. The savings they make for you are clear profit. They are made in C, D and E sections. They are patented by B. F. Goodrich. No other V belt is a grommet belt (U. S. Patent No. 2,233,294).

Write, send the coupon or see your B. F. Goodrich distributor. (He will show you his "X-ray" belt that shows the grommet construction clearly.)

*Grommet V-Belts* BY

**B.F.Goodrich**

FIRST IN RUBBER




**The B. F. Goodrich Company**
**Dept. TW-1**
**Akron, Ohio**

☐ Send set of reports telling users' experiences and showing actual installations proving that B. F. Goodrich grommet belts outlast all others.

☐ Have distributor show me the "X-ray" belt that shows how B. F. Goodrich grommet belts are made.

Name_____

Firm Name_____

_____

Street Address_____

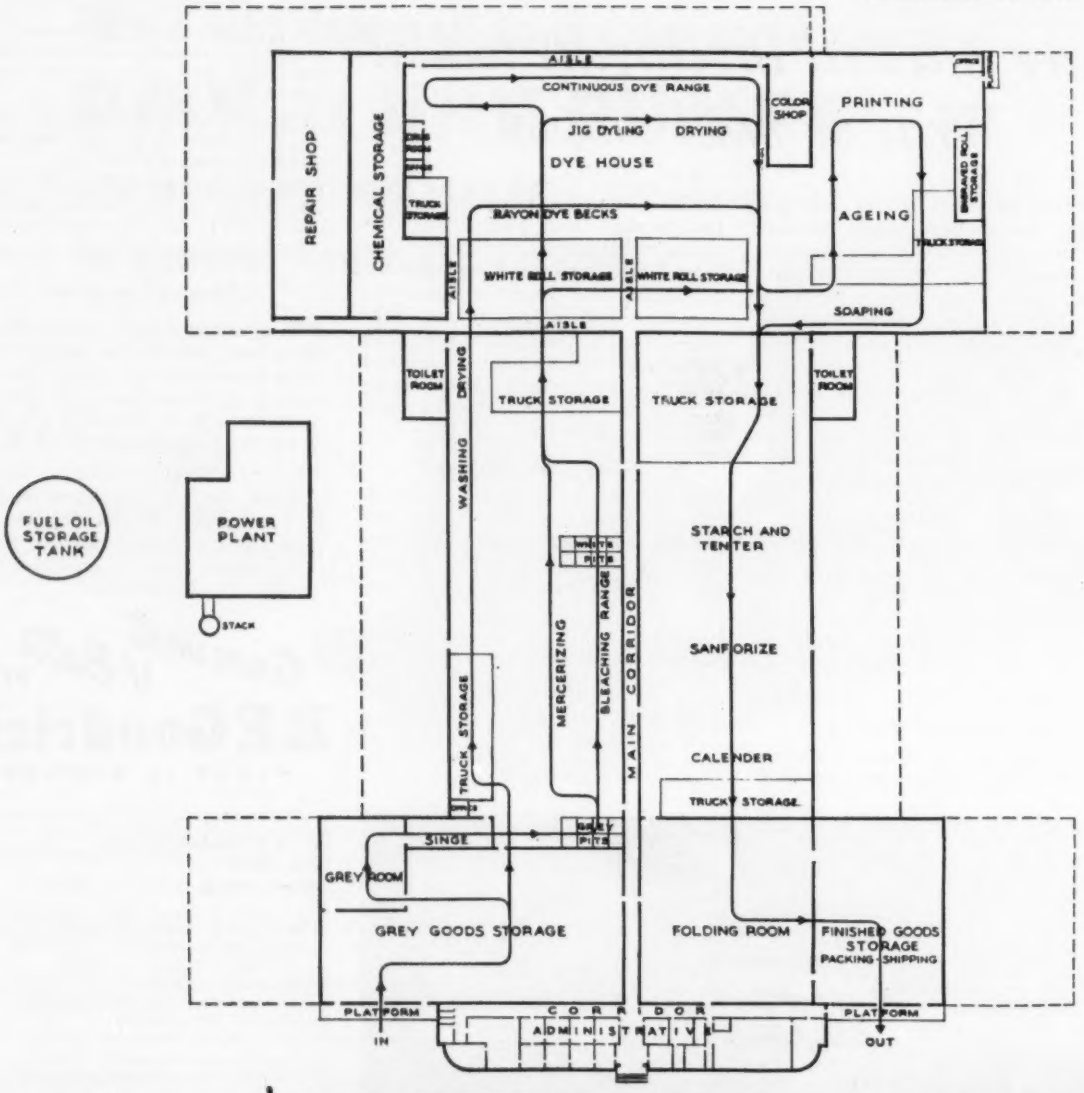
City_____

State_____

# A Lockwood Greene Project

## COTTON AND RAYON FINISHING PLANT FOR ACABADOS MEXICO, S. A.

COMPLETED IN 1950




*Layout features:*

1. Straight line production flow
2. Economy of floor space
3. Flexibility
4. Planned expansion

# LOCKWOOD GREENE

**ENGINEERS—ARCHITECTS**

Boston 9, Mass. 40 Central Street
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Spartanburg S. C. Montgomery Bldg.
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6th Century Coptic Fabric.
Museum of Art,
R. I. School of Design.

**. . . then as now**

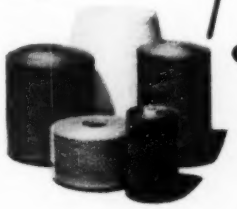
## YARN DYED FABRICS were Supreme

During the Sixth Century A.D., the Egyptian desert swarmed with holy hermits. These Christianized descendants of the pyramid-builders, known as Copts, supported themselves by dispensing blessings to pilgrims — and by looming yarn dyed fabrics like the medallion shown here.

Even then color was used to enrich fabrics, and fabrics whose patterns were created from colored yarns ranked highest in favor and appreciation.

Today, as always, the best fabrics are yarn dyed. For exceptional quality in your colored yarns and expert advice in their use, trust to Franklin Process — yarn merchants and the largest package yarn dyers in the world.

YARN MERCHANTS AND LARGEST PACKAGE DYERS IN THE WORLD



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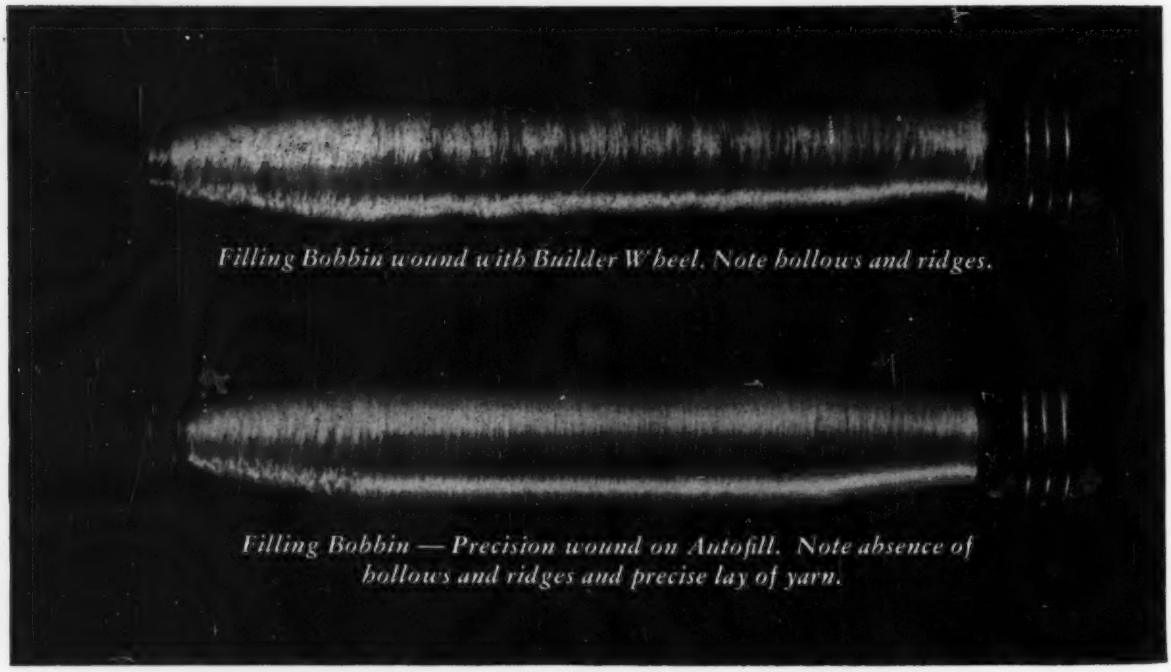
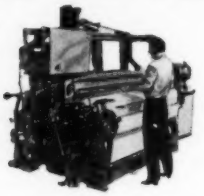


*Filling Bobbin wound with Builder Wheel. Note hollows and ridges.*

*Filling Bobbin — Precision wound on Autofill. Note absence of hollows and ridges and precise lay of yarn.*

# The Foster-Muschamp Autofill Bobbin Will Save You Money

## . . . AT THE LOOM

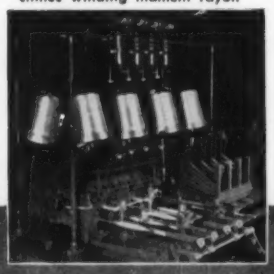


## *Particularly if You're Weaving Fine Denier Yarns*

Winding filament rayon from parallel packages on the F-M Autofill

•

Battery of F-M Autofill Machines winding filament rayon



You can't afford to take chances *at the loom,* because "value added by manufacture" is approaching the peak at that point.

You can greatly improve the efficiency of your looms, economy in winding and the quality of your fabrics, by winding your filament filling yarns on the Foster-Muschamp Autofill — completely automatic. This machine uses gears, instead of a builder wheel, to control the lay of the yarn on the bobbin. It produces a bobbin which is exceptionally free of broken filaments, ridges and hollows. The Autofill bobbin delivers with precision in the loom, because it is a precision wound product. Results — better weaving at less cost — more production — fewer rejects.

You want these benefits no matter what you're weaving and can get them with the Autofill. However, they're particularly important if you're weaving fine denier yarns, such as 30 denier nylon. In such cases, because your materials cost is high, losses due to damage become astronomical.

Get all the facts regarding Foster-Muschamp Autofill — the completely automatic precision filling winder. Send for bulletin M-1 to-day.

**FOSTER MACHINE COMPANY**

Westfield, Mass., U. S. A.

*Southern Office — Johnston Bldg., Charlotte, N. C.*

# MACHINES MOUNTED ON Westsorb CAN'T CRAWL

Westsorb *adhesive-coated* machine mounts are solving more than the problem of vibration. Their (exclusive) adhesive coating on both sides prevents looms and all other machinery from "crawling." Eliminates realignment after installation. This minimizes down time—saves money.

Westsorb adhesive-coated felt mountings don't break down under heaviest service impacts. They resist oil, acid, grease, water and age. They are simpler to install than any machine pad. No holes or bolts—no adhesive to apply. Western Felt engineers located throughout the textile areas are anxious to cooperate.

**WESTSORB**
**Vibration-absorbing Machine Mounts**

- Quickly installed
- No holes to drill
- No adhesive to apply
- Low "down-time"
- Saves floors
- Less machine repair
- Reduce plant noise
- Thickness for every need
- Engineered for every job

**GET THIS DATA**

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4035-4117 Ogden Ave.
Chicago 23, Illinois
Branches in all Principal Cities
MANUFACTURERS AND CUTTERS OF WOOL FELTS

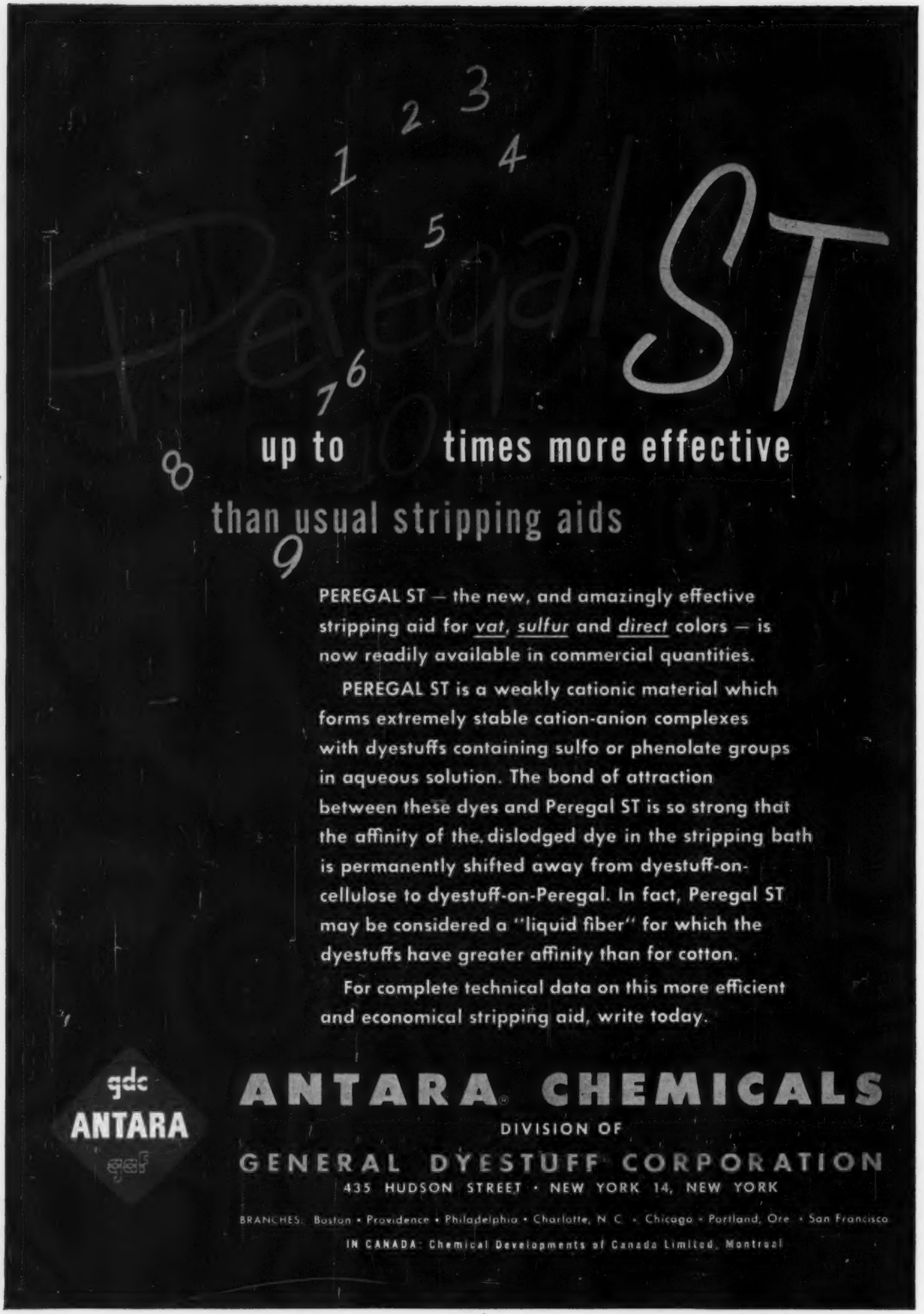
Western Felt Works
4035-4117 Ogden Ave., Chicago 23, Illinois

Please send 18-page booklet containing data on efficiency tests of Westsorb machine mounts under looms and other equipment.

*Company* .....

*Address* .....

*Individual*.....*Title*.....


Peregal ST
up to times more effective
than usual stripping aids
PEREGAL ST — the new, and amazingly effective stripping aid for vat, sulfur and direct colors — is now readily available in commercial quantities.
PEREGAL ST is a weakly cationic material which forms extremely stable cation-anion complexes with dyestuffs containing sulfo or phenolate groups in aqueous solution. The bond of attraction between these dyes and Peregal ST is so strong that the affinity of the dislodged dye in the stripping bath is permanently shifted away from dyestuff-on-cellulose to dyestuff-on-Peregal. In fact, Peregal ST may be considered a "liquid fiber" for which the dyestuffs have greater affinity than for cotton.
For complete technical data on this more efficient and economical stripping aid, write today.
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ANTARA® CHEMICALS
DIVISION OF
GENERAL DYESTUFF CORPORATION
435 HUDSON STREET • NEW YORK 14, NEW YORK
BRANCHES: Boston • Providence • Philadelphia • Charlotte, N. C. • Chicago • Portland, Ore. • San Francisco
IN CANADA: Chemical Developments of Canada Limited, Montreal

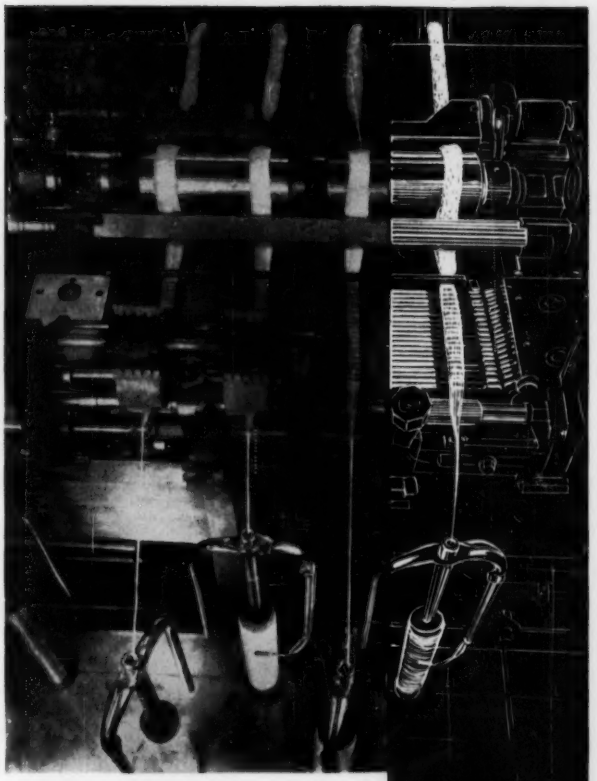
THE new SACM Cone Gill Reducer extends the even end advantages of the Abbreviated System to the reducing operation, when producing a twisted slubbing from an untwisted slubbing.

The drafting field consists of a bed of 30 fallers each with four pinned setovers. Each head of fallers feeds four spindles and has an independent screw drive. The faller pin control exercises the necessary restraint on the individual fibers to insure a steady flow of material to the front roller with regular distribution of the short fibers throughout the mass. There is an automatic stop-motion for each head. The maximum number of heads that can be accommodated is twenty, feeding eighty spindles.

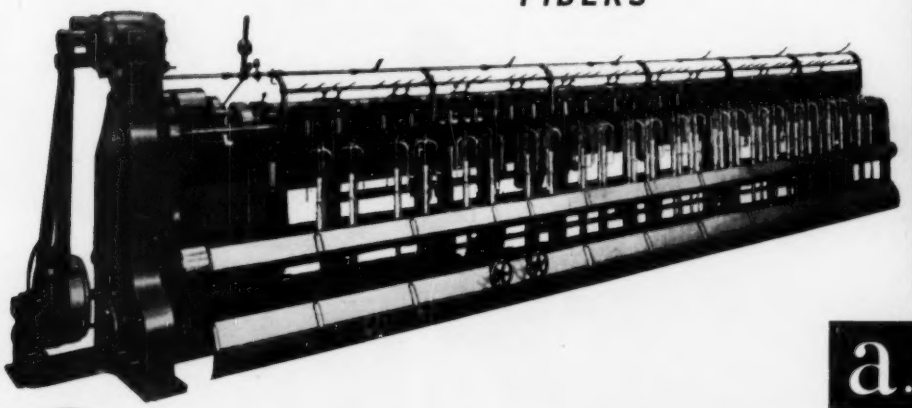
Drafts of 5 to 15 and doublings of from 1 to 3 may be obtained, with spindle speeds of up to 950 r.p.m. Bobbin size is 11″ x 6″ or 10″ x 5″. Maximum front roller speed is 1180″ per minute.

This machine is available with vertical creels for bobbins or with a can creel. All gears are precision, machine-cut. The spindle-bobbin drive is practically noiseless and runs in self-lubricated reservoir foot-steps. The top rolls and cone shaft run on ball bearings. The back rolls and back sliver guides are adjustable.

*Write us for an appointment to see this machine in operation at our exhibition room.*



## NEW Cone Gill Reducer FOR WORSTED AND SYNTHETIC FIBERS



SACM

U. S. A. WRITE
ATKINSON, HASERICK & CO.

a.h.

BOSTON 6
CHARLOTTE 2

SOCIETE ALSACIENNE DE CONSTRUCTIONS MECANIQUES
MULHOUSE, FRANCE

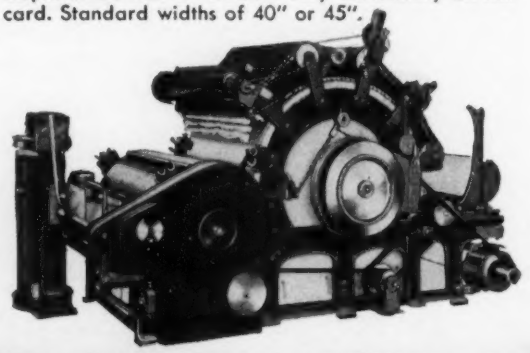
# basic

You're in business to make money and *the efficiency of your machinery has a lot to do with profits.* Platt machines are developed in co-operation with the world famous T.M.M. Ltd. spinning research laboratory, built to rigid specifications and **proven in mills throughout the world.** This is the type of machinery that is basic to the successful operation of a cotton mill: highly productive, economical and of long life. Atkinson, Haserick would be glad to show you the proof.

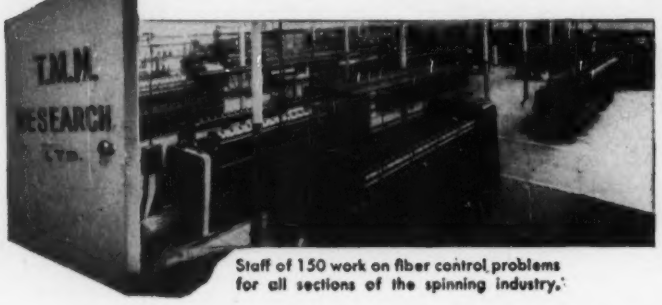
## basic TO CARDING

### *EVEN, NEPLESS WEBS . . . . . .*

With Platt's Revolving Flat Card, accurate settings are easy to obtain and hold, insuring the production of an even, nepless web for both light and heavy carding. There is an exceptionally strong cross rail construction and rigid foundation. Vibration is virtually eliminated and air currents minimized. Cut staple fibers can be worked very successfully on this card. Standard widths of 40" or 45".



**PLATT BROS.**
**(SALES) LTD.**
OLDHAM, ENGLAND




Staff of 150 work on fiber control problems for all sections of the spinning industry.

Laboratory provides continual information on all processes from bale to plied yarn.

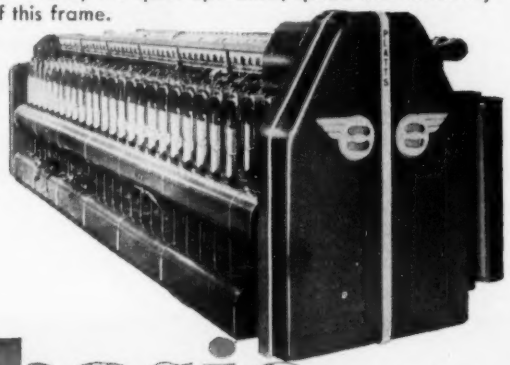


For more information, write direct or use Reader Service post card.

# basic TO ROVING

## *FIBER AND TWIST CONTROL...*

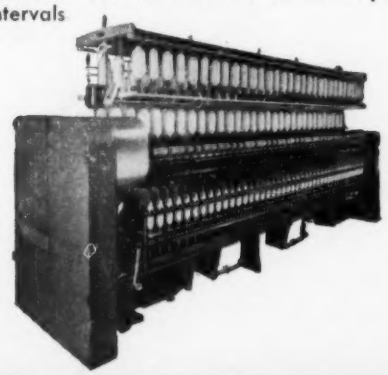
The new Platt M.S.2 High Draft Roving Frame operates with great efficiency at high speeds. Three drafting zones give unprecedented fiber control through a wide range. A stronger roving is formed by inserting more of the total twist close to the nip of the front roll. The firm roving sheds little fly. You will be impressed by the quiet operation, speed and efficiency of this frame.



# basic TO SPINNING

## *LARGE PACKAGES, HIGH SPEED...*

The Platt M1 Ring Spinning Frame is a practical, proven frame for large packages. It has a choice of high drafting arrangements and a new spring arm roller weighting that adjusts to a wide range of staple lengths without altering the nip pressure. The simplified headstock has central lubrication, few gears and flexibility of turns per inch. Roller bearing spindle needs routine maintenance at only 2,500 hour intervals



Actual conditions in opening, picking, carding and spinning rooms are reproduced in the laboratory.

# *a management responsibility*

**Don't you owe it to your mill to investigate ALL the new processes, new fibers, new machinery. A visit to our Charlotte display rooms would be time well spent. We are engineers and agents for some of the finest machinery developed in England.**

*Atkinson, Haserick & Co.*

*Textile Machinery Agents and Engineers Since 1823*

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# Large Package High Speed

# MAGNUM RING SPINNING FRAME

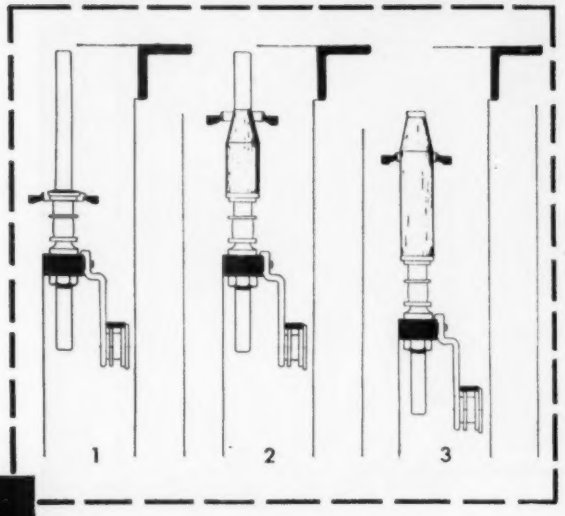
The Magnum Ring Spinning Frame combines the valuable features of a stationary ring rail spinning frame, with the good points of a traversing ring rail type of machine. It eliminates practically all the disadvantages of both, with the result that very large packages may be used with complete success. These packages may go up to 8 ounces and cover counts up to 42's. The greater length on the bobbin allows for fewer doffings, consequently, higher efficiency of the machine and the operatives. Less frequent creeling in later winding operations is a valuable indirect benefit. This is a *tested* and well *proven* spinning frame which has demonstrated its ability in hundreds of mills to produce excellent quality worsted yarn at high speeds. It would be a pleasure to send you data on the capabilities of the Magnum Ring Spinning Frame with reference to the type of yarns you produce.

U.S.A. Agents for French System Machinery: Blake Electric Mfg. Co., 43 Commercial Wharf, Boston 10, Mass.

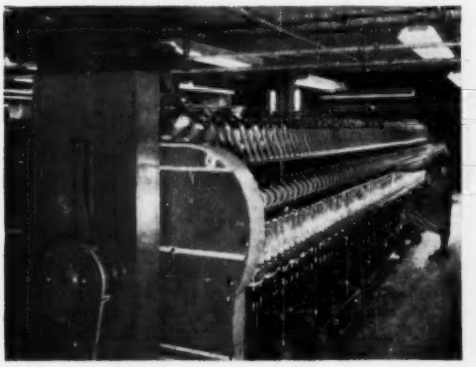


For more information, write direct or use Reader Service post card.

# How Magnum action steadies the balloon




Progressive stages of building the bobbin are shown in the illustration. You will note that the spindle rail is stationary until the bobbin is half filled. At this time it starts to drop in order to compensate for the rise of the ring rail. This dual action maintains a relatively constant balloon. With this control, yarn breakage is quite infrequent, in fact you will find that your yarn will now contain only about a quarter of the knots formerly experienced from standard ring frames.



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FOR THE PHOTOS
APPEARING ON THESE PAGES

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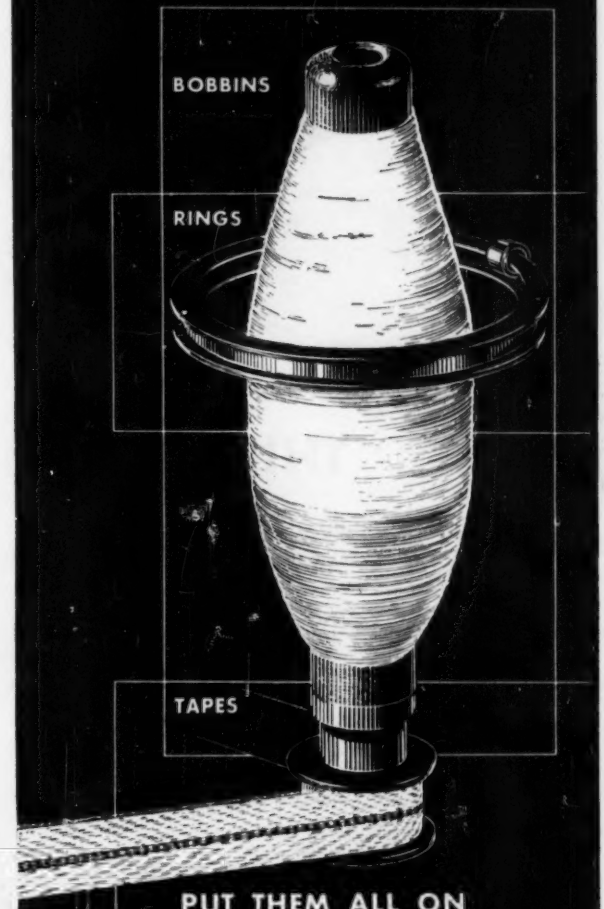
**MILL SUPPLIES**
the easy way




PUT THEM ALL ON
THE SAME ORDER
To

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# 73% VERSUS 50% LIQUID CAUSTIC SODA

## THIS UNIT CAN SAVE YOU *MANPOWER* AND *DOLLARS!*

Many volume users of Caustic Soda have realized substantial savings by switching from 50% to 73%.

Actually, the expenditure for making this change is small when compared to the excellent returns.

Take the case of one of Columbia-Southern's customers.

**This company invested $3,500 for equipment and its installation to handle 73%. In the first year $35,100 in savings were realized, *a return of 1003% in the first year alone!***

Furthermore, the manhours required to handle the unloading were considerably reduced because fewer cars were needed to supply the same tonnage of Caustic.

The operation used to save both manpower and dollars is the Columbia-Southern patented process that incorporates unloading and diluting in a single operation. The assembled unit (note illustration) is compact and relatively inexpensive.

Columbia-Southern's technical service staff will be glad to make recommendations regarding the cost and location of an unloading unit as well as assist with the unloading of the initial shipment.

Shipments of 73% are made in Columbia-Southern's specially designed tank cars that have a patented lining which prevents metallic contamination in transit. Also, these cars have the fusion welded tank, improved insulation, and many other features.

Write today for futher information on how you can save with 73% caustic!

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CHEMICAL CORPORATION
SUBSIDIARY OF PITTSBURGH PLATE GLASS COMPANY

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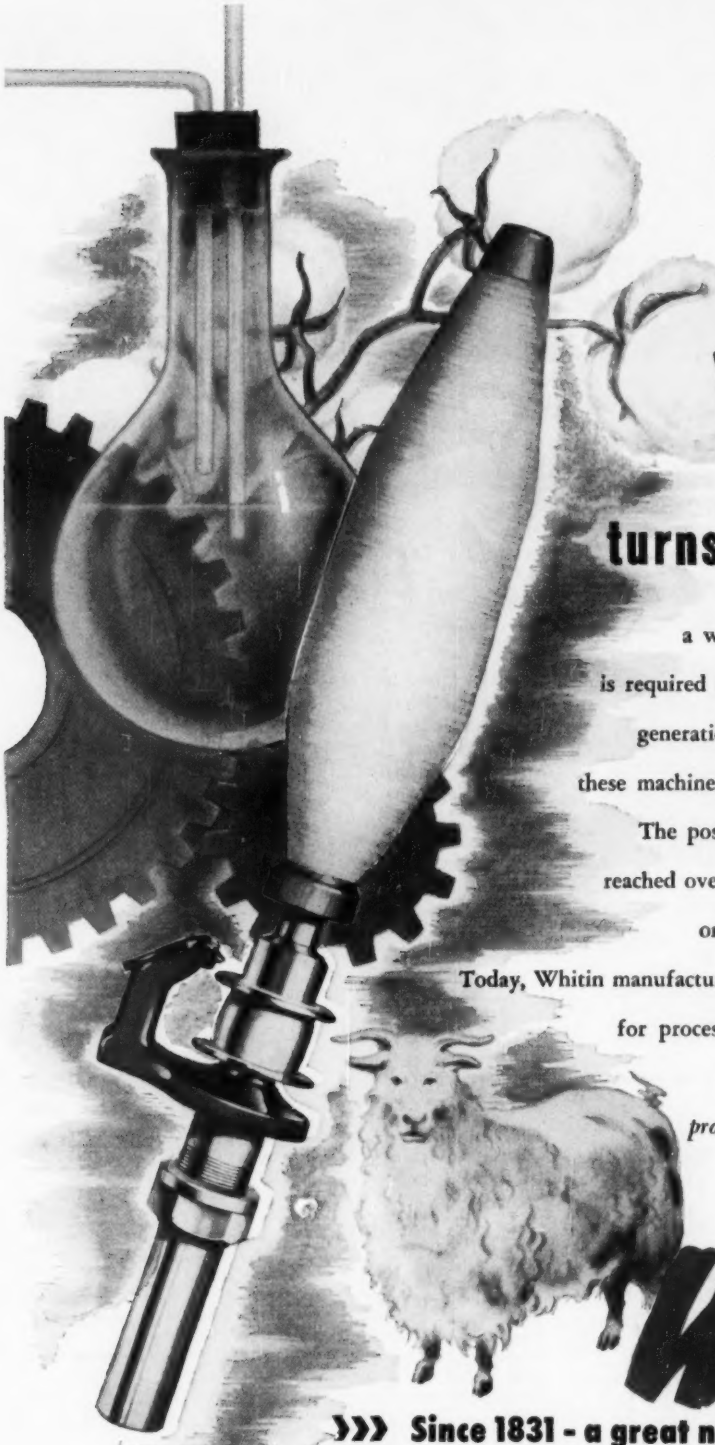

# Whenever man turns fibers into yarn...

a wide variety of highly specialized machinery is required to accomplish this complicated process. For generations, Whitin has been engaged in supplying these machines to textile mills in all parts of the world. The position of leadership in this field that Whitin reached over a century ago and maintains today is based on its policy of "Progress Through Research". Today, Whitin manufactures a complete line of preparatory machinery for processing practically all fibers, both natural and synthetic. For the best in modern, efficient, *profit-producing* machinery – buy from Whitin.

**Whitin**

**»» Since 1831 - a great name on textile machinery ««**

MANUFACTURERS OF MACHINERY FOR: OPENING • PICKING
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TWISTING • WINDING, AND FOR MANY OTHER PROCESSES

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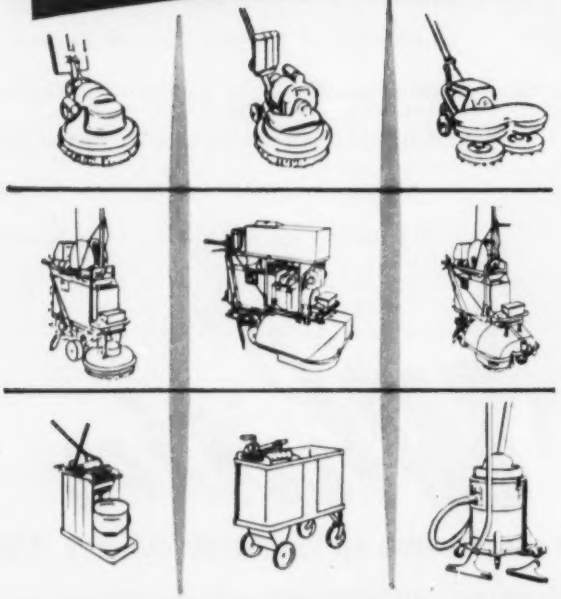
# Keep your floor-maintenance men happy . . .

## with *Job-Fitted* EQUIPMENT!

**Choose from the COMPLETE *Finnell* Line**

**More than a score of models and sizes permits selection of the equipment that's exactly right for your job!**



However much a maintenance man may want to do a good job, and at the same time show savings in labor costs, he's *stymied* if the machine is too small, or too large, or is otherwise unsuited to the job. Different floors and areas call for different care and equipment. That's why *Finnell makes more than a score of floor-maintenance machines.* From this complete line, it is possible to choose equipment that is correct in size as well as model . . . that provides the maximum brush coverage consistent with the area and arrangement of the floors.

*Finnell* makes *Conventional Polishing-Scrubbing Machines* in both concentrated and divided-weight types, each in a full range of sizes . . . a *Dry-Scrubber*, with self-sharpening brushes, for cleaning grease-caked floors . . . *Combination Scrubber-Vac Machines* for small, vast, and intermediate operations, including gasoline as well as electric models . . . *Mop Trucks* . . . *Vacuum Cleaners* for wet and dry pick-up, including a model with By-Pass Motor. In addition, *Finnell* makes a full line of fast-acting *Cleansers* for machine-scrubbing . . . *Sealers* and *Waxes* of every requisite type . . . *Steel-Wool Pads*, and other accessories — *everything for floor care!*

In keeping with the *Finnell* policy of rendering an individualized service, *Finnell maintains a nation-wide staff of floor specialists and engineers. There's a Finnell man near you* to help solve your particular floor-maintenance problems . . . to train your operators in the proper use of *Finnell Job-Fitted Equipment and Supplies* . . . and to make periodic check-ups. For consultation, demonstration, or literature, phone or write nearest *Finnell Branch* or Finnell System, Inc., 1901 East St., Elkhart, Ind. Branch Offices in all principal cities of the United States and Canada.

**FINNELL SYSTEM, INC.**

*Originators of Power Scrubbing and Polishing Machines*

50th Anniversary — Everything FINNELL for Floor Care

BRANCHES IN ALL PRINCIPAL CITIES



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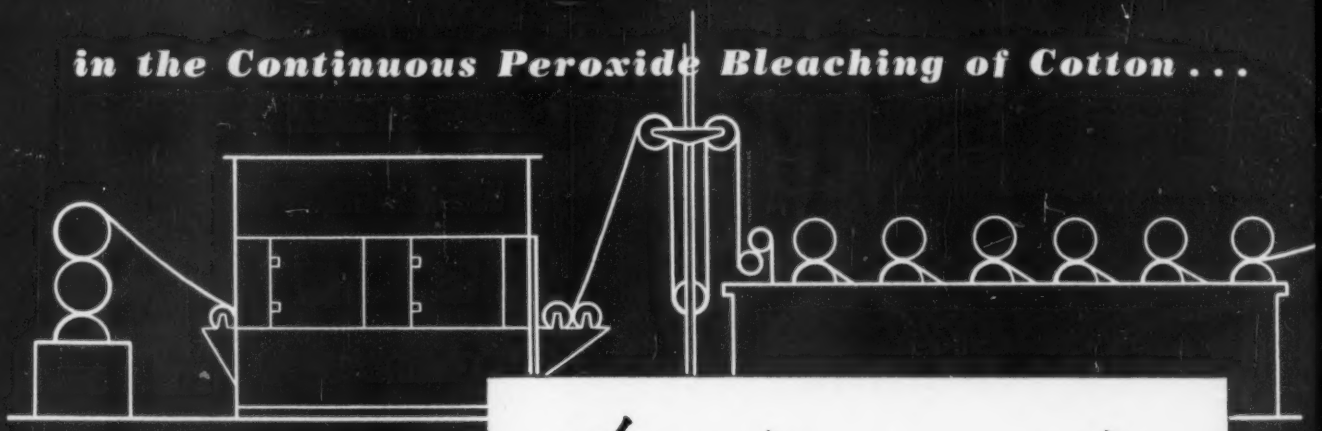
*in the Continuous Peroxide Bleaching of Cotton . . .*



# *4 good reasons why*

## there's nothing like Nacconol*

AMERICA'S LEADING SYNTHETIC DETERGENT

**1. Better removal of motes, waxes and pectins**
**2. Whiter goods**
**3. Less dye resists**
**4. Reduced bleach requirements**

To improve quality and cut costs, follow these simple Nacconol formulations:

***½ to 1 lb. per 100 gallons of Caustic liquor***
***1 to 2 lb. per 100 gallons of Peroxide liquor***
***1 to 2 lb. per 100 gallons of wash water***
***A trickle feed of Nacconol to hold a concentration of 0.20-0.25% in the sulfuric acid dip is advised***

Remember—Nacconol is the time-tested synthetic detergent made by a dyestuffs concern to the high standards of the textile industry. Proof of its quality are the many detergents claiming to be "just like Nacconol". But for Nacconol results, why accept a substitute? Get Nacconol by phoning our nearest office.

**SEND FOR TECHNICAL BULLETIN #324**

It contains full information on the use of NACCONOL in the Continuous Peroxide Bleaching of Cotton Piece Goods. There is no cost or obligation, merely write or phone our nearest office.

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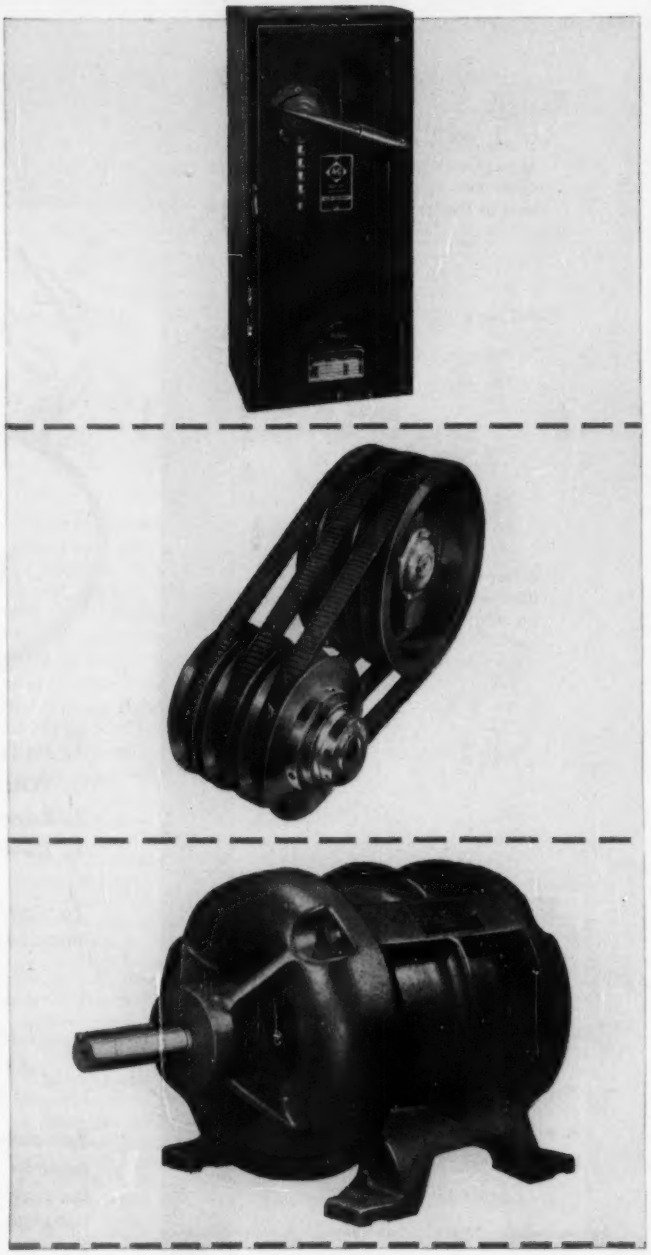
# Built to Work

## From Power Line to Machine

ALLIS-CHALMERS

**TEXTILE DRIVES**



YOU WILL SAVE MONEY by getting your complete machine drives from one dependable source. When you use Allis-Chalmers coordinated drive components, you can be sure that they will be installed easily and quickly and that they will work together to give you dependable service at lowest possible cost. One reliable manufacturer guarantees the satisfactory operation of your complete machine drive.

**COMPETENT APPLICATION ENGINEERING**

Allis-Chalmers application engineers, practical men with an intimate knowledge of the textile business, will help you select the best combination of motor, drive and control for your particular requirements.

If you are building a new mill or modernizing your old mill for higher speed operation and lower costs, discuss your drives with the Allis-Chalmers representative in your territory. He can help you plan for more profit. Allis-Chalmers, Milwaukee 1, Wisconsin. A-3708

*Texrope, Quick-Clean and Vari-Pitch* are Allis-Chalmers trademarks.

*Allis-Chalmers Textile Specialists*

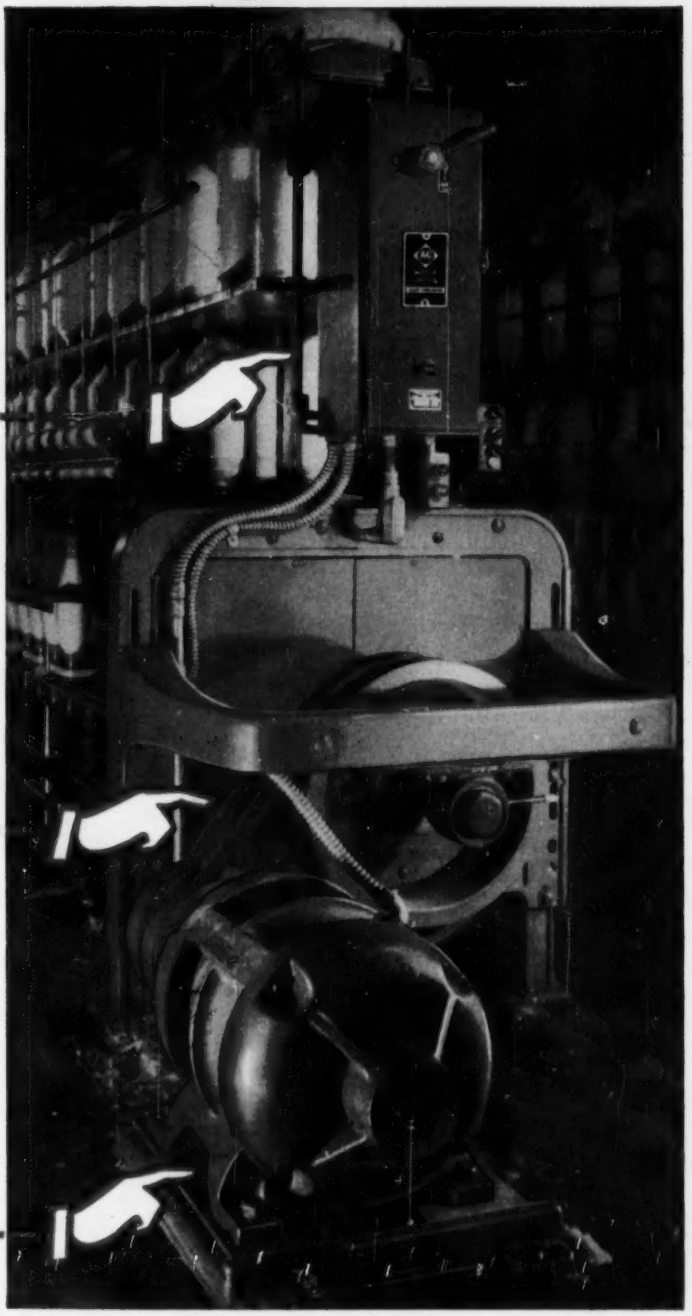
**are located in the following cities:**

Atlanta, Georgia
Birmingham, Alabama
Boston, Massachusetts
Charlotte, North Carolina
Chattanooga, Tennessee
Dallas, Texas
New Orleans, Louisiana
Richmond, Virginia

# Better Together

## MOTOR CONTROL

Standard types of textile motor control built to operate with Allis-Chalmers loom motors, *Quick-Clean* motors and all other Allis-Chalmers motors used in the textile industry. This is a full voltage AC magnetic starter with fusible disconnects which provides overload and undervoltage protection. Other starters are available for special service such as slow speed starters for card drives, loom switches and many other types preferred by textile mill operators. Enclosures may be lint-proof with interlocked cover handles for safety.



## TEXROPE DRIVE

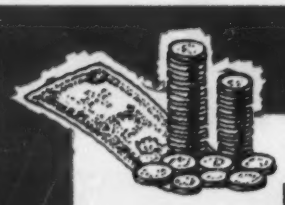
*Texrope* V-belt drives, the original multiple V-belt drives for textile machinery, are available in both fixed and variable speed types. More and more mills are finding that the moderate extra cost of *Vari-Pitch* sheaves comes back many times in increased machine versatility and more precise quality control as well as reduced down-time for change-overs. With either Stationary Control or Motion Control *Vari-Pitch* sheaves, speeds can be accurately adjusted quickly and easily. Wide Range *Vari-Pitch* Sheaves cover complete operating range of most machines with one drive.

## TEXTILE MOTOR

*Quick-Clean* motors are of special wide-open design which cannot trap lint, overheat and burn out. Powerful fans sweep lint-laden air into the motor and right out again through large, unobstructed ventilating openings. All internal air passages are smooth, hard and streamlined so that lint cannot lodge. *Quick-Clean* motors are built with special acceleration and torque characteristics to meet special requirement of roving frames, cards and other machines. A special totally-enclosed, non-ventilated loom motor also is available.

# ALLIS-CHALMERS

***Originator of the Multiple V-Belt Drive for the Textile Industry***



# DOLLAR FOR DOLLAR YOU CAN'T BEAT THE *New* PROCTOR *Air Slasher* DRYER

Cuts Slasher Room Costs

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Top Quality Yarn

Easy to Clean

Developed and guaranteed by the world's largest and oldest drying machinery manufacturers—the new Proctor Air Slasher—offers you the latest in efficient drying or sized natural and synthetic fibers.

Features include:

Wet splitting of warp at entering end

Proctor parallel air flow nozzles to insure mild air action

Direct motor driven fans—eliminating belt or coupling drives

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Exhaust fan for slasher and size box

All steel construction for strength and smooth interior for easy cleaning

LOW INITIAL COST

It all adds up to improved warp and increased production—making the Proctor Air Slasher the best investment in the field today. Use coupon for more information.

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610

# *Make Fabrics Soft as Candlelight*

## AHCOVELS*

The enchanting softness candlelight gives to fabrics is duplicated by AHCOVELS. The same gentle luxury, the silky glow and touch, the regal drape are all there in AHCOVEL treated fabrics!

**These AHCOVEL Features Mean Better Processing Results:**

Lasting resistance to usual laundering and dry cleaning.
Good stability to heat and storage.
Odorless.
AHCOVELS E., F. and R. assure full retention of light fastness of any color.
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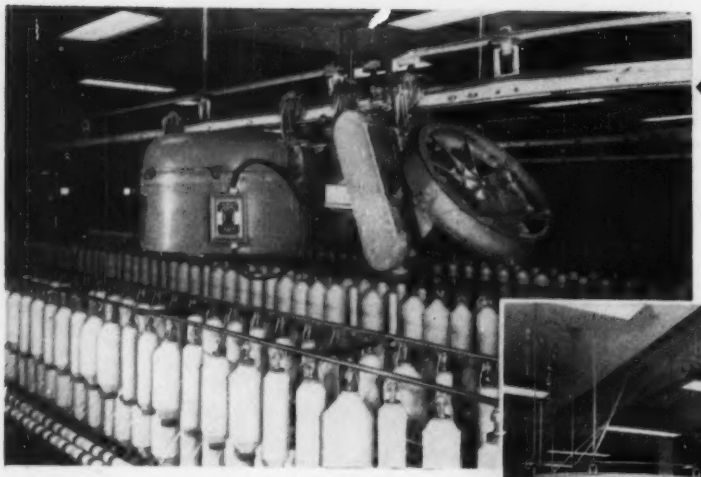

Cleans Up—Cleans Down
For clean ceilings and clean frames.

How do your spinning rooms compare with this for cleanliness? Photo taken during normal operations.

# STANDARD EQUIPMENT FOR *Really Clean Mills*

Note clean ceiling even over air duct. This mill no longer "blows-down" ceilings.

Overhead cleaning is recognized today as standard practice in mills producing high quality yarn. It is almost axiomatic that a thoroughly cleaned spinning room will produce clean yarn.

American MonoRail Automatic Cleaning for over and under the frame and for ceiling cleaning will prevent lint accumulation, produce better running work, reduce costs, and increase mill efficiency.

Let an experienced engineer consult with you on your cleaning problems. He will also be glad to talk with you about your handling problems.

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Design and supply of complete spinning plants
based on latest experience in spinning and engineering
Spares for spinning machinery

*We are manufacturing for cotton spinning mills in particular:*
Blowing Room Machinery (Trützschler system)
with central full-automatic electric control
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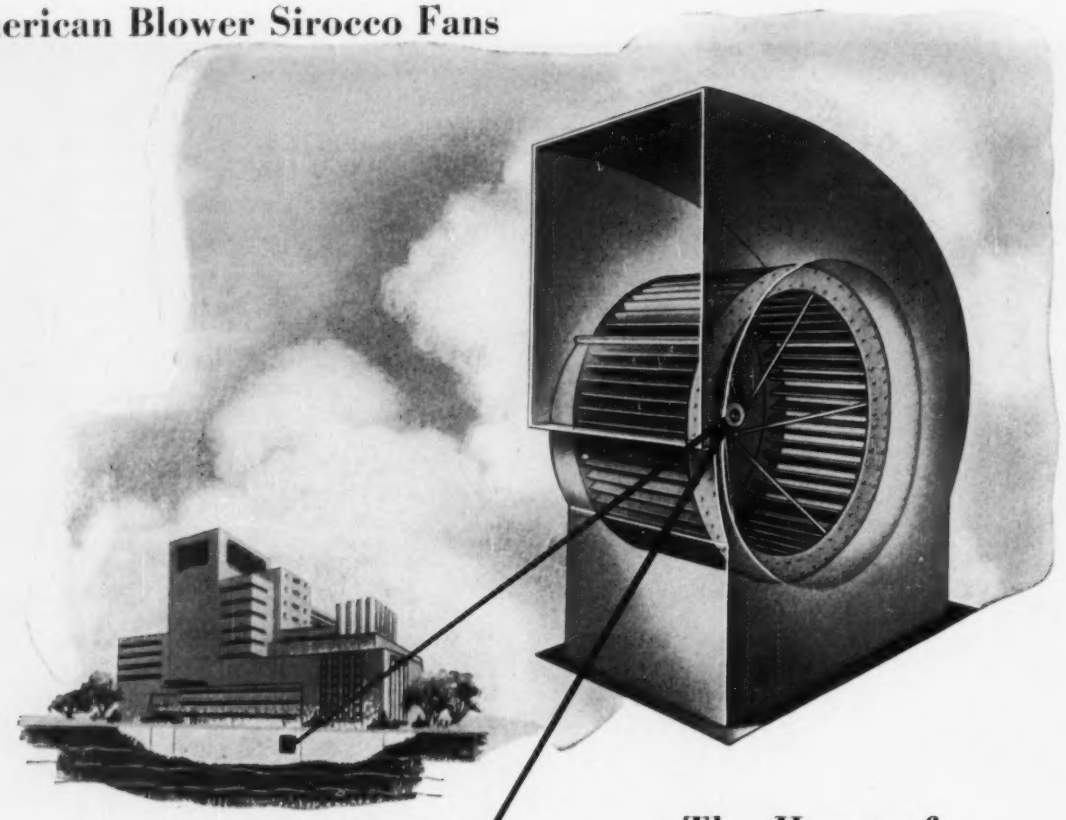
# American Blower Sirocco Fans



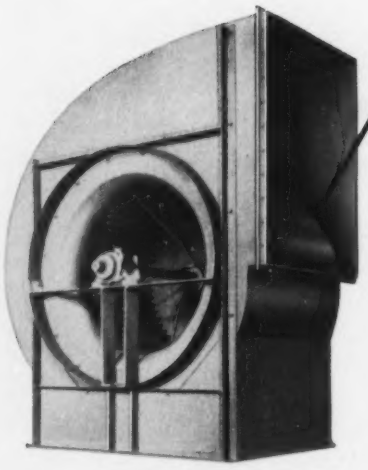
## The Heart of Air Conditioning

So quiet it's hardly noticed, so compact it conserves valuable space, so efficient it's actually the heart of this hospital's vital air conditioning system.

American Blower Sirocco Fans occupy less space and deliver more air per revolution than any other type fan. Slower speed means quieter operation, decreased wear, minimum maintenance.

Many thousands of Sirocco Fans have been installed throughout the world since 1908. Over the years many refinements have been included. New methods of construction have been perfected. But these fans still retain the proved Sirocco principle of delivering more air per revolution.

For data on how the Sirocco Fan can be used in your business, call the nearest American Blower Branch Office.



American Blower Series 81 Sirocco Fan. All Sirocco Fan ratings are certified in accordance with the Standard Test Code.

AMERICAN BLOWER CORPORATION, DETROIT 32, MICHIGAN
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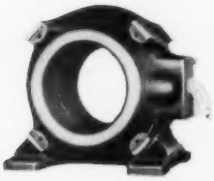
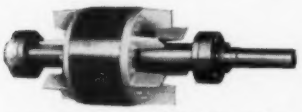
Century Textile motors are ruggedly built for long service life.

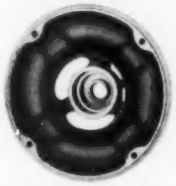
# Century TEXTILE MOTORS SHED LINT Are Well Ventilated for Long Service Life



Strong, rigid cast iron frame, smooth contours permit free circulation of air.



Rotor assembly with ball bearings in place. Large fans assure adequate ventilation.



Rigid cast iron end brackets maintain alignment, provide smooth, quiet starting and running.

Century C MOTORS

Smooth, clean air passages permit cooling air to enter the motor through the end brackets. This steady blast of air circulates over the bearings, around the windings and out through the large air passages in the frame.

These Century motors are non-clogging — lint and textile dust pass through the motor readily. The motors stay clean, operate at normal temperatures!

In addition to textile motors, Century builds a complete line of electric motors in sizes from ⅛ to 400 horsepower . . . in drip proof, splash proof, enclosed fan cooled and explosion proof frames. Century selective speed drives are also available.

Specify Century for all your textile and standard motor requirements.

**CENTURY ELECTRIC CO., 1806 Pine St., St. Louis 3, Mo.** • *Offices and Stock Points in Principal Cities*



For more information, write direct or use Reader Service post card.

# New principle of weaving speeds production,

**NEW METHOD**

Small steel shuttles, only 3⅛ inches in length and weighing only an ounce, grip the ends of the filling yarn and pick it across the machine, drawing directly from the large package.

**OLD METHOD**

Conventional wooden bobbin-carrying shuttle carries yarn back and forth across machine—weighs almost two pounds. Bobbin holds little yarn, must be replenished frequently.

**YOU CAN PRODUCE IT BETTER, FASTER, FOR LESS WITH WARNER &**



For more information, write direct or use Reader Service post card.

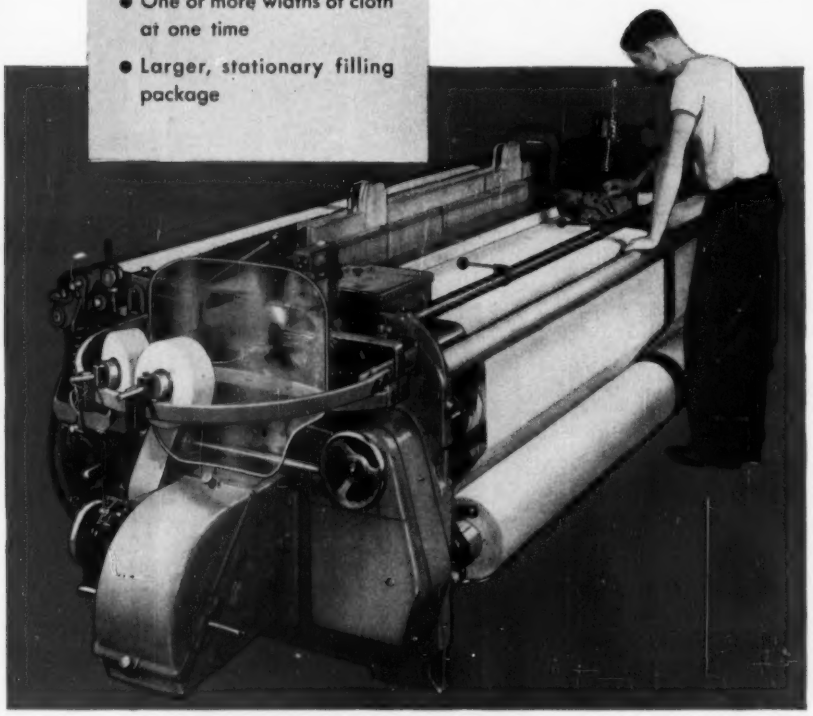
# eliminates bobbins, improves quality of fabrics

**MODELS**

| | |
|---|---|
| M-2820 | 80" reed |
| M-2860 | 95" reed |
| M-2960 | 110" reed |

- 240 picks per minute
- One or more widths of cloth at one time
- Larger, stationary filling package

## NEW WARNER & SWASEY-SULZER weaving machine is BIG NEWS!



BASED ON actual production records of leading mills—manufacturing worsteds, woolens, spun synthetics and blends—the new Warner & Swasey-Sulzer Weaving Machine has more than lived up to advance notices!

Besides increasing production substantially, mills report the machine produces better quality, more lofty fabrics. Mending costs and waste have been drastically reduced. Its rugged, compact design cuts maintenance costs, saves floor space. Only 49" high, operators can easily observe operation of large batteries of machines. It has proved itself a machine that will pay for itself *fast!*

But find out how the many operational advantages of this revolutionary new weaving machine can improve *your* mill's production. Call in your nearest Warner & Swasey Field Representative for all the facts.

**BRANCH OFFICES**
61 Rivulet St., North Uxbridge, Mass.
6910 Market Street, Philadelphia, Pa.
Candler Building, Atlanta, Ga.
1820 Browning Ave., Charlotte, N. C.

WARNER & SWASEY
TEXTILE MACHINERY DIVISION

**SWASEY MACHINE TOOLS, TEXTILE MACHINERY, CONSTRUCTION MACHINERY**

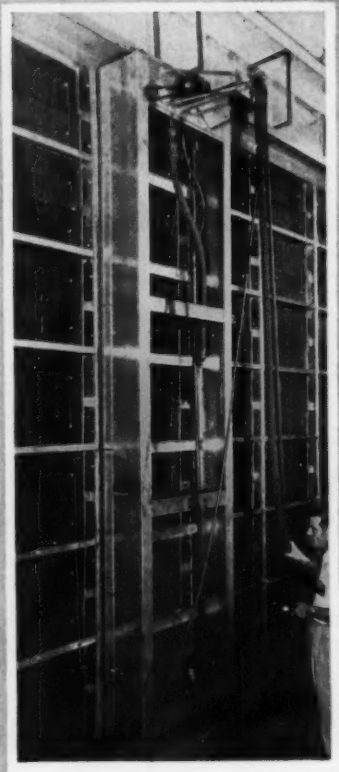
*Plant at Greenville, S. C.; N. Y. Sales Agents: Deering Milliken Co.

# SMOKE
## SPUN INTO YARN?

Yes, it used to be at Judson Mills. Cost them money, too, for it made the yarn streaky and smudgy, and much of it had to be sold as dark shades rather than as premium-commanding light or pastel shades. To complicate things, light shades produced in winter for the spring and summer markets were getting the full effect of all the smoke and soot thrown into the air by nearby factories and residences.

But Judson began engineering these dirt losses right out of their mill in 1940 with PRECIPITRON,® the electronic air cleaner. Their first installation was so successful that they have since added over 1,000,000 cfm capacity. Now the bulk of their production is in the light shades.

Let air cleaning, air conditioning or air handling *put air to work* for you. Call your Westinghouse-Sturtevant office, or write Westinghouse Electric Corporation, Sturtevant Division, Hyde Park, Boston 36, Mass.



Judson Mill's PRECIPITRON units with semi-automatic washer not only give them top air cleaning efficiency, they also simplify the dirt disposal problem. Washer boxes automatically flush dirt off collector plates, leave unit ready for next cycle.

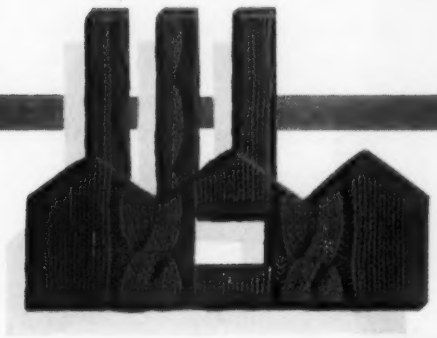
YOU CAN BE SURE...IF IT'S

# Westinghouse

J-80237B

**GOOD KNITTING**

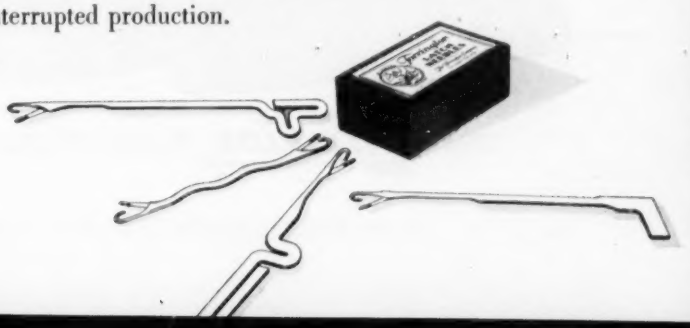
**DEMANDS GOOD NEEDLE SERVICE**



**FOR QUALITY NEEDLES IN ANY QUANTITY...**

**DEPEND ON TORRINGTON**

Torrington maintains large stocks of its quality needles at its main plant at Torrington and at all of its ten offices conveniently located at strategic shipping points throughout the U. S. A. and Canada. This is another advantage of Torrington's needle service that helps you maintain uninterrupted production.



**THE TORRINGTON COMPANY**
Torrington, Conn., U. S. A. • Established 1866
*Branches:* New York · Philadelphia · Chicago · Boston
Greensboro, N. C. · St. Louis · Bedford, P. Q.—Toronto, Canada
*Pacific Coast Representative:* E. G. Paules,
1762 West Vernon Ave., Los Angeles 37, Calif.
Broadgate House, 7-10 Eldon St., London E. C. 2, England

**WHAT *Life-Line* REALLY DELIVERS IS MORE SERVICE...LESS SERVICING**



For more information, write direct or use Reader Service post card.

# The way to lick lint and dust is to keep it out!

And here's a drive team that really keeps it out!

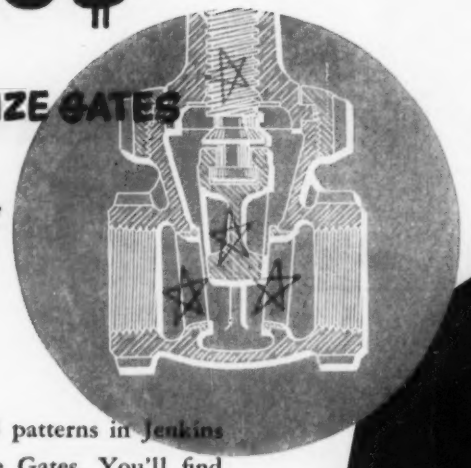
Look at the extra features of the Loom Motor Starter. A special neoprene gasket forms a positive, continuous seal between case and cover. Pressure from cover-retaining screw makes sure every crevice is filled with pliable neoprene. It's the only starter approved by the Associated Factory Mutual Fire Insurance Companies.

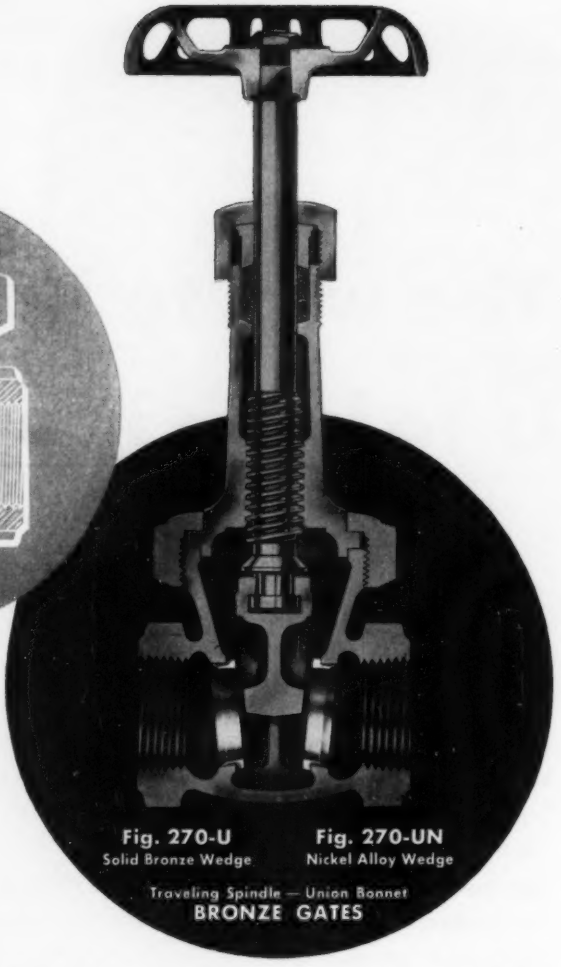
And check the extras on the totally enclosed Loom Motor, too. No chance for lint or dust to clog windings. Notice, too, there are no greasing nipples or cups on the motor. Pre-lubricated, factory-sealed bearings need no lubrication. Thus, outages from both lint clogging and improper lubrication are eliminated.

Together these two make the best drive team for your weave-room equipment. Maintenance has been practically engineered out. Ask your Westinghouse representative for a free copy of, "Motors and Controls in the Textile Industry". Thirty-six well-illustrated pages show how to overcome problems in drive selection. Ask for B-5422, or write Westinghouse Electric Corporation, P. O. Box 868, Pittsburgh 30, Pennsylvania. J-21686-A

YOU CAN BE SURE...IF IT'S Westinghouse

# Built-in $AVING$ make JENKINS BRONZE GATES your BEST BUY



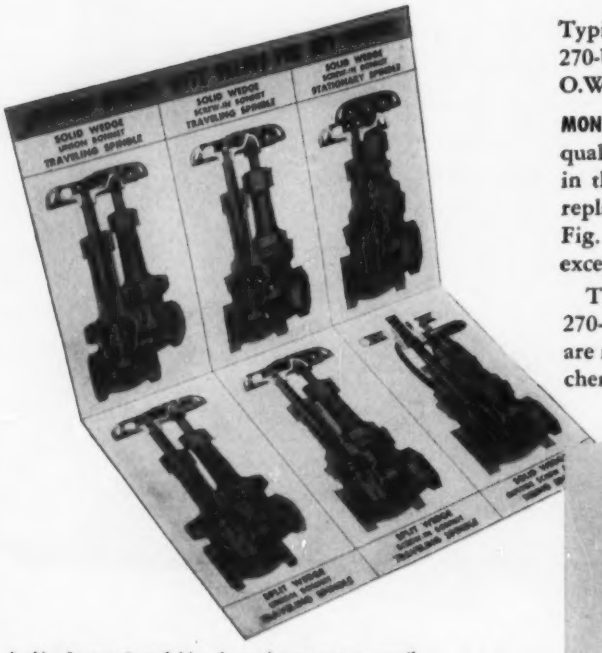



Look over any of the 35 patterns in Jenkins complete line of Bronze Gates. You'll find *savings* built into every valve. Jenkins valve specialists designed each one for easy maintenance and extra long wear. Try them on your toughest services and see why they take top-rating in any test for endurance and economy. Jenkins Bros., 100 Park Ave., New York 17.

Typical of Jenkins design for built-in savings are the Fig. 270-U and Fig. 270-UN Gates for 200 lb. Steam, 400 lb. O.W.G. services.

**MONEL AND BRONZE SEATING COMBINATION** In Fig. 270-U a high quality bronze wedge seats against MONEL rings expanded in the body. The wedge takes the wear — it can easily be replaced when necessary by slipping a new one on the stem. Fig. 270-UN, with a nickel alloy wedge, is recommended for exceptionally severe conditions of rapid wear and corrosion.

These and other features of rugged construction make Figs. 270-U and 270-UN first choice for economy where conditions are most destructive to valves, as in oil refineries, dye houses, chemical, food, and rubber plants.



Jenkins Bronze Gate folder shows the many types available — lists convincing reasons why they are your best buy for any service. Ask for Form 181-A.

JENKINS VALVES

LOOK FOR THE DIAMOND MARK

SOLD THROUGH LEADING INDUSTRIAL DISTRIBUTORS

# DANGER

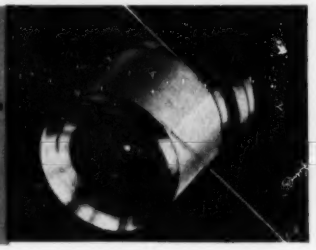
## VANDALS BREAK LOOSE...
## destroy perfect cloth

Use caution, broken ends are dangerous! Dangerous to fabric production... can cause loom stoppage and cloth seconds!

Reduction of the number of broken ends is assured by IRC's extraordinary Continuous Spinning Process which spins, treats, bleaches, dries and twists rayon yarn in uninterrupted sequence —never once being touched by human hands. The resulting uniformity of strength eliminates weak spots, reduces the number of broken filaments which might cause breaks in the yarn.

Progressive mills everywhere are protecting their profits by use of IRC's Continuous Process yarn and are getting better fabric, higher level production and reduced costs.

IRC
Industrial Rayon Corporation
Cleveland, Ohio



I.R.C.'s "Thread-Advancing" Reel... your guardian against flaws in rayon yarn.

*Sales Office*
*500 Fifth Avenue,*
*New York 36, N. Y.*



For more information, write direct or use Reader Service post card.

# DAYCO COTS with amazing new discovery, IBROCOL, *successfully combat eyebrowing!*

Thanks to a new synthetic rubber blend containing the amazing ingredient, Ibrocol, Dayton Rubber research has been able to develop an entirely new and different Dayco Cot—EW-465—that successfully combats eyebrowing. Actual mill tests run on many frames prove this, and also that it drafts better yarn, requires fewer cleanings of the clearer boards, and runs longer between buffings than any other cot.

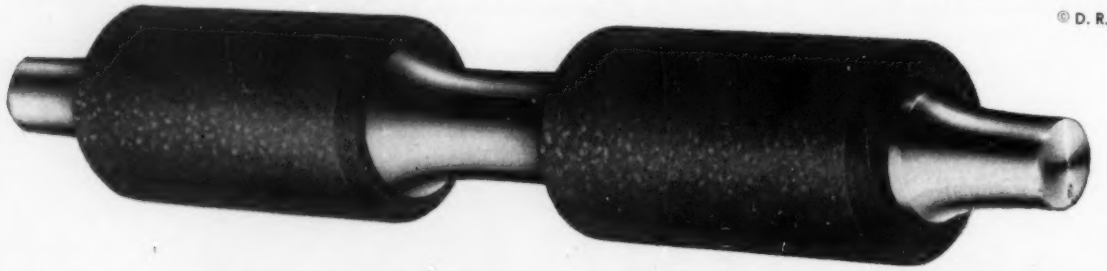
The addition of Ibrocol is the chief reason for this remarkable performance. Its chemical and mechanical action gives the cot a surface that maintains just the right coefficient of friction to remove only the short staple fibers and transfer them well back under the clearer board. Long staple fibers that could build up into eyebrows are left in the yarn. Hence there is less waste as well as less eyebrowing.

There's another big advantage too. The Ibrocol in the new Dayco Cot retards slicking and glazing. Thus the surface retains its coefficient of friction longer than any other synthetic cot. This means fewer buffings, greater savings.

In addition to its special features, the new EW-465 Dayco Cot also gives you all the other famous Dayco Cot advantages. They're unaffected by moisture or changes in temperature. Neither do they groove, pit, or develop flat spots. As a result of these many features, Daycos give you fewer ends down, less lap ups, less eyebrowing, better drafting on all types of frames using either natural or synthetic fibers.

Whether you want to overcome eyebrowing or any other cot problem, you'll find that Dayco Cots are the right answer to help you secure the highest quality production at the lowest possible cost. For the whole story, get in touch with your Dayco Representative today.

© D. R. 1953



***According to*** actual mill tests, this new Dayco Cot with IBROCOL successfully combats eyebrowing, drafts better yarn, and runs longer between buffings.

**Dayton Rubber**
*Since 1905*
***Textile Products for Better Spinning and Weaving***

**DAYTON RUBBER CO., TEXTILE DIVISION, WOODSIDE BUILDING, GREENVILLE, S. C.**



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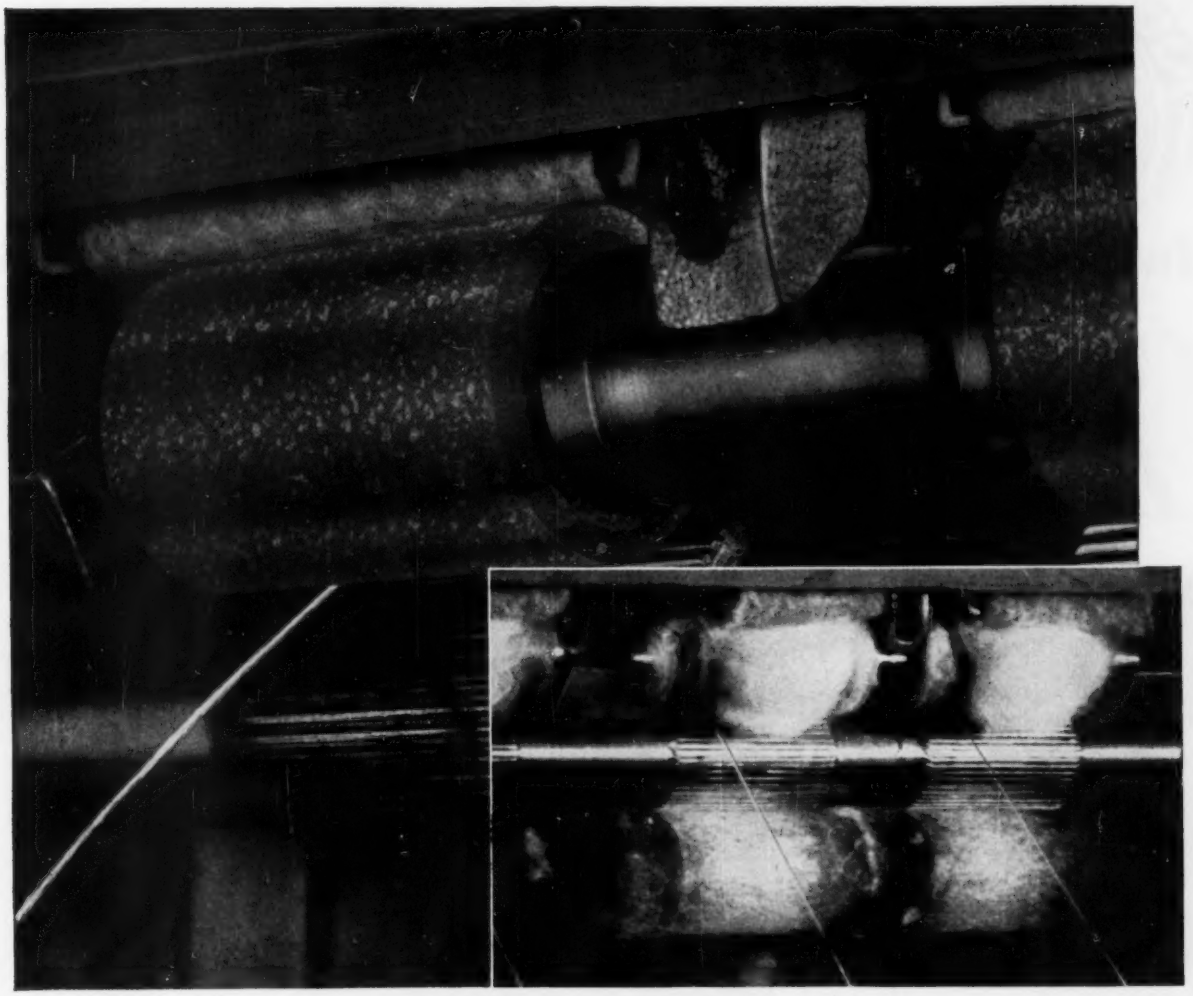
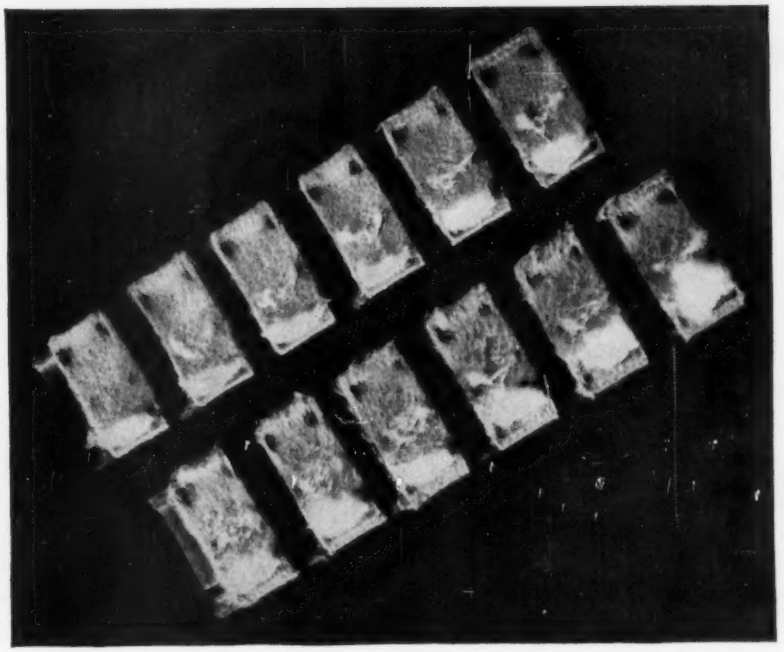




***Compare*** the non-eyebrowing performance of these new EW-465 Dayco Cots shown above in the large illustration, with the condition of another make, shown in the inset. You immediately see why mills who have tried the new Dayco Cots are so enthusiastic. An accurate check in a great many mills over a period up to one year showed that the new Dayco EW-465 Cot did not eyebrow while other cots did.

***The clearer board on the top*** came from a stand of new EW-465 Dayco Cots. These cots were run on the frame exactly the same length of time as the bottom clearer board taken from an adjacent stand of different make cots. Note the difference in the clearer waste. This is because the Dayco's remove only short staple fibres, packing them well back under the clearer board away from possible pickup by the end.

# V-R is 1st Again

## in Advancement of 2-3 Pick and Hank

# COUNTER DESIGN

For 30 years, Veeder-Root has scored the important "firsts" in advancement of counter design . . . studying the needs of mill men and giving *them* what they need. Now here again is a V-R "first" which offers additional new features:

- EASIER TO READ, reset and maintain.
- SHEAR-PIN TYPE OF PROTECTION built into reset knob.
- 4th UNIT CAN BE ADDED for use as 4th-shift counter or as totalizer.
- BRASS BEARINGS on horizontal shafts.
- BRONZE OILITE BEARINGS on vertical drive shafts.

NEW PLASTIC CONNECTION (at left) . . . cuts installation time, maintenance costs . . . resists humidity, wear, vibration.

Yes, here again is V-R Value, and in fuller measure than ever before. See your nearest Veeder-Root office.

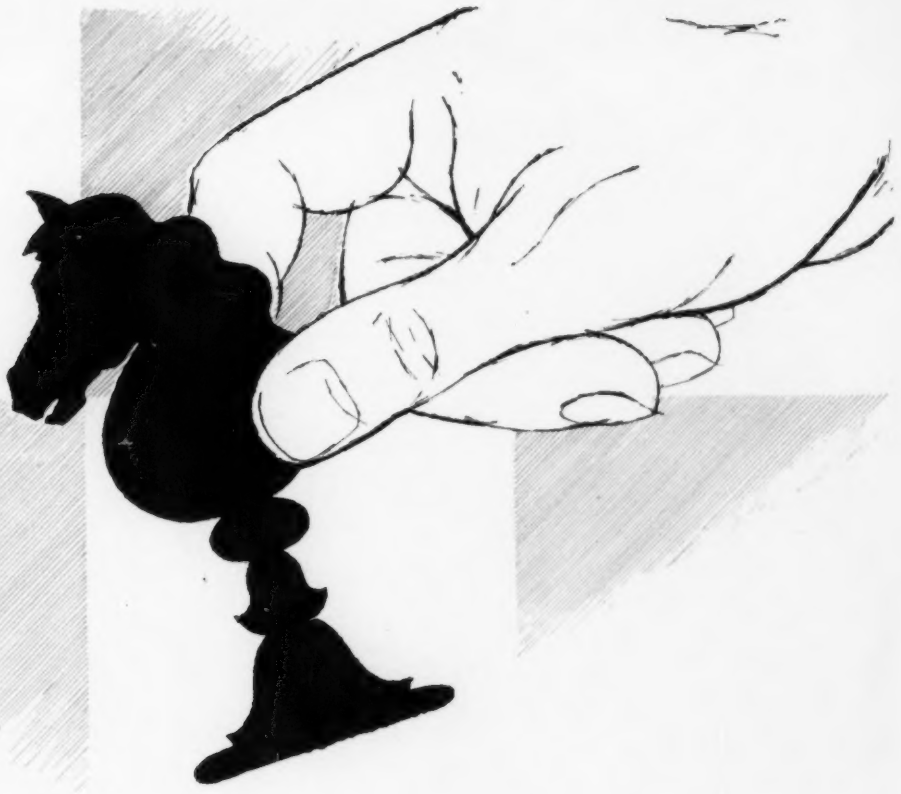
**VEEDER-ROOT**
**INCORPORATED**

*"Counting House of the Textile Industry"*

**HARTFORD 2, CONN. • GREENVILLE, SO. CAROLINA**

New York 19, N. Y. • Chicago 6, Ill. • Greenville, S. C. • Montreal 2, Canada • Dundee, Scotland • Offices and Agents in Principal Cities

**You are invited to visit our new Southern Sales & Service Headquarters — an easy 6-mile drive from Textile Hall, straight out Route 29 on Greenville-Spartanburg Highway.**



# your best move–

## to improve lubrication and reduce maintenance costs —adopt Gulf Periodic Consultation Service

Through Gulf Periodic Consultation Service, Gulf Sales and Staff Engineers offer expert help on every phase of lubrication, in every room in the mill. If you are not already doing so, you'll find it pays to adopt this service—your best and most logical move to improve lubrication and reduce maintenance costs. For further information, write, wire, or phone your nearest Gulf office today.

GULF SERVES INDUSTRY

Gulf Oil Corporation • Gulf Refining Company
Pittsburgh 30, Pennsylvania

*Let us meet our duties and responsibilities through all the year with an open, willing heart; and let us give only our best, as we understand our best to be.*

Harry C. Bdey
President

**HOWARD BROTHERS**

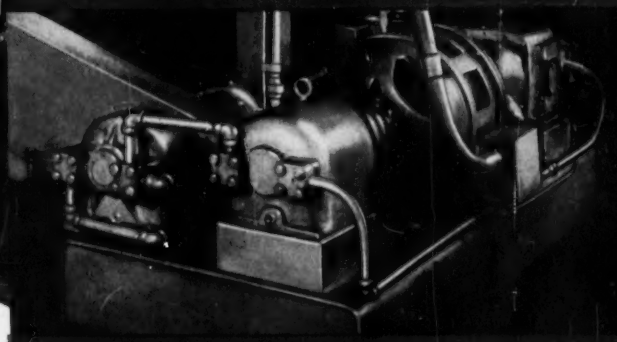
WORCESTER, MASSACHUSETTS



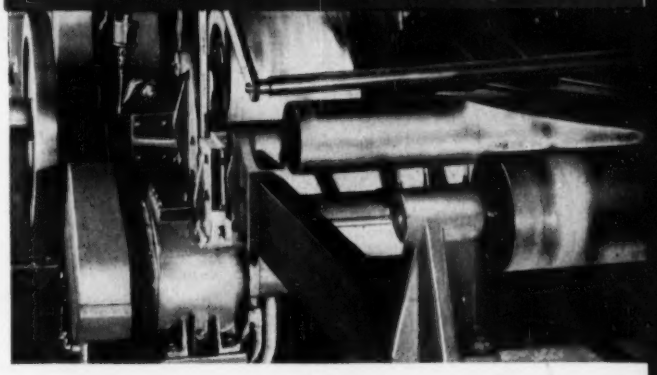
For more information, write direct or use Reader Service post card.

# Saves Time, Money, Material

ON CHICAGO CARTON COMPANY LAMINATING MACHINE



AND CUT-OFF



**Oilgear drive installed in 1934 operates 16 hours daily at low cost. Gives maximum production on all stocks with little spoilage or non-productive time**

A laminating machine and a cut-off in the plant of the Chicago Carton Company are driven in synchronism by Oilgear Fluid Power Equipment installed in 1934. A trip to the plant reveals today the compact, sturdy Oilgear equipment on the lower floor performing quietly, efficiently and continuously 16 hours a day in the necessarily humid atmosphere. Maintenance records indicate a total expenditure of $93.21 during the 16 years for service and parts, less than $6.00 a year. Because of the full flexible speed range and easy controllability of the Oilgear drives, the laminating machine is operated at speeds that best fit the type of board being processed and the cut-off drive follows in synchronism to cut stock into uniform lengths.

Another Oilgear feature important here is the unusual speed with which the laminating machine drive and cut-off drive can be started and stopped. This feature of Oilgear smooth, high speed acceleration and quick hydro-dynamic braking reduces non-productive time and cuts spoilage of sheets to a bare minimum.

On the basis of the 16 year performance of Oilgear, the Chicago Carton Company recently installed another Oilgear drive on a new 125 hp installation.

Time after time, Oilgear demonstrates its superiority and dependability on variable speed drives. Oilgear Fluid Power has many advantages. Investigate them now. THE OILGEAR COMPANY, 1577 W. Pierce St., Milwaukee 4, Wis.

**UPPER—Oilgear 40 hp Variable Speed Drive with electric pilot motor remote control and oil reservoir base.**

**LOWER—Oilgear 7½ hp Variable Speed Drive with automatic control to synchronize cutter speed with speed of laminating machine drive.**

**Oilgear**

**PIONEERS IN FLUID POWER**

PUMPS, TRANSMISSIONS, CYLINDERS AND VALVES

OILGEAR

# COMBITEX

DUSSELDORF, GRAF-ADOLPH STR-78

COMBINE OF TEXTILE MACHINERY MANUFACTURERS — COMBITEX

## A COMBINE OF TEXTILE MACHINERY MANUFACTURERS

**J. Kruckels K. G. Zell**
(Wiesental)

Hot Air Sizing Machines for cotton and worsted warps
Moist Air Sizing Machines for woollen and worsted yarns
Cylinder Sizing Machines for rayon and cotton warps

**Jean Gusken G. m. b. H.**
Dulken/Rhld.

High Capacity Weaving Looms for woollen and upholstery
Double Shuttle Looms for weaving velvets and plushes
Carpet Looms

**Carl Zangs A.-G.**
Krefeld

High Duty Weaving Looms for silk, rayon and the like,
Semi and Full Automatic Looms
Jacquard Machines • Card Cutting and Repeating Machines

**S. Lentz**
Viersen/Rhld

Woollen and Worsted Loom
4 x 4 box (7 shuttles), up to 18 shafts

**H. Krantz**
Aachen

Dyeing Apparatus and Machines
Bleaching Apparatus
Wool-Washing Plants

**H. Krantz Sohne**
Aachen

High Effect Multiple Layer Tentering and Drying Machines
Feeding-Devices
Devices for needling-up

**Friedrich Haas G.m.b.H.**
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Drying Machinery • Chamber Dryers
Loop Dryers
Infrared Steam Agers

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Napping Machine for woollen and cotton goods
Complete machinery for the cutting and finishing process for corduroy, velvets and velveteen

**Dr. Ramisch & Co. G.m.b.H.**
Krefeld

Calenders of all kinds for cotton, rayon, linen and jute
Special-calenders

**Johannes Menschner • Rossweiner Maschinenfabrik A.-G.**
Dulken/Rhld.

Doubling and rolling machines
Cloth inspecting machines
Selvedge printing machines

**Benteler-Werke Bielfeld**

Multi-Purpose Jigger with automatic reversing gear
Soaping • Boiling • Dyeing • Rinsing

Bringing you the products of the greatest European **TEXTILE MACHINERY SPECIALISTS**

COMBITEX brings you from one source the advanced textile machines produced by eleven leading European manufacturers — machines that have proved efficient in textile mills the world over.

Continuous exchange of ideas and experience between member firms enables COMBITEX to supply single machines or complete textile plants of the highest technical standard both as regards efficiency and productive capacity. A joint office for handling the various matters arising from this association has been established.

In the U. S. A. the Mawaco Machine Company, a division of the Textile Machinery Import Company, is fully equipped to service these machines and to maintain replacement parts. Your inquiries are invited.

## TEXTILE MACHINERY IMPORT CO.

277 North Avenue, New Rochelle, New York

For worms and gears—in standard sets or to special requirements—or as worm-gear speed reducers, including the economical fan-cooled Speedaire unit—you can always depend on Cleveland.

# High quality worms and gears to meet your needs

● You pay no more for Cleveland worms and gears—and yet, built into them are extra years of service and satisfaction.

Uniform, high quality has been an outstanding characteristic of Clevelands through 38 years—a generation devoted to the manufacture of fine worms and gears exclusively. Specifically, there are four ingredients of Cleveland quality:

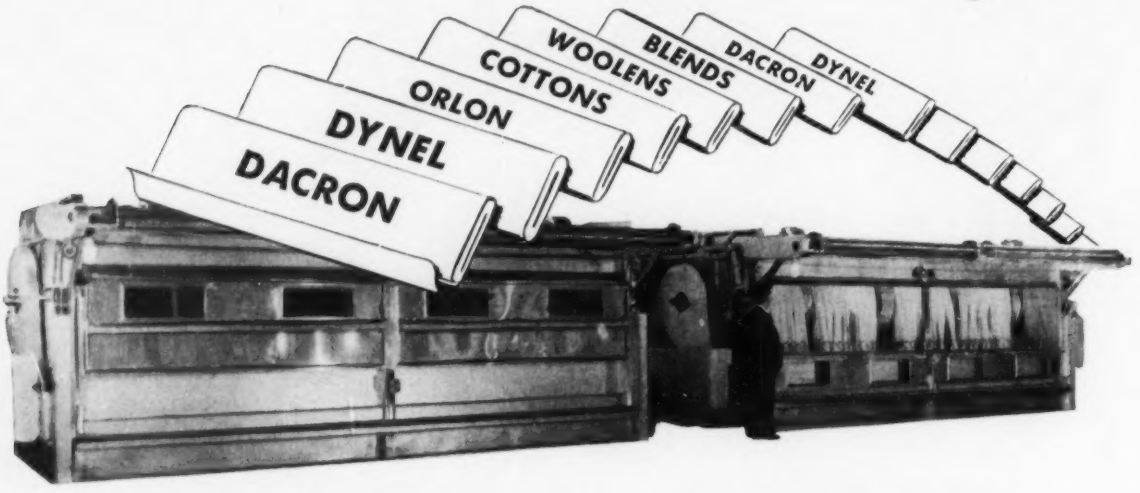
1. Correctness of design—design proved best by years of performance.
2. The finest of materials, selected after years of experience and research.
3. Modern machine tool equipment, in a modern plant kept up-to-date by a policy of continuous replacement.
4. Machinists and other production workers who are craftsmen, trained in precision work.

So whatever your need, consult Cleveland. Sales representatives in all major industrial centers are at your service, to help you select correct types and sizes and discuss any phase of your power transmission problems.

Write for the latest Cleveland catalog, indicating your requirements. The Cleveland Worm & Gear Company, 3268 East 80th Street, Cleveland 4, Ohio.

*Affiliate: The Farval Corporation, Centralized Systems of Lubrication. In Canada: Peacock Brothers Limited.*

# Dye "Hard to Dye" Synthetics Easily...




## with Type TLBT Piece Dye Kettles

*For Fabrics of Dacron, Dynel, Orlon, Etc. —*
*As Well as Cottons, Woolens and All Blends!*

Whether your fabric is natural, synthetic or a blend — our TLBT Dye Kettles do away with piece dyeing problems. Nearest to an all-purpose machine ever offered, our Type TLBT-X dyes the difficult cotton and synthetic rug fabrics with complete success. Among important features of these stainless steel enclosed machines:

★ Unique design and multi-grip type reel avert tangles and tie-ups, reduce slippage.

★ Goods balloon, move around, change folds readily to eliminate wrinkles, creases and dye streaks.

★ Saves substantially in dyestuffs through operating efficiency, in steam costs through design and insulation, in long life and maintenance through savings-insurance features.

Ask for full data on piece dyeing synthetics and other fibers with Type TLBT — greatest advance in piece dye kettle design in 25 years. Our new catalogue page — free on request — describes these fine machines in detail.

**RIGGS & LOMBARD, INC.**

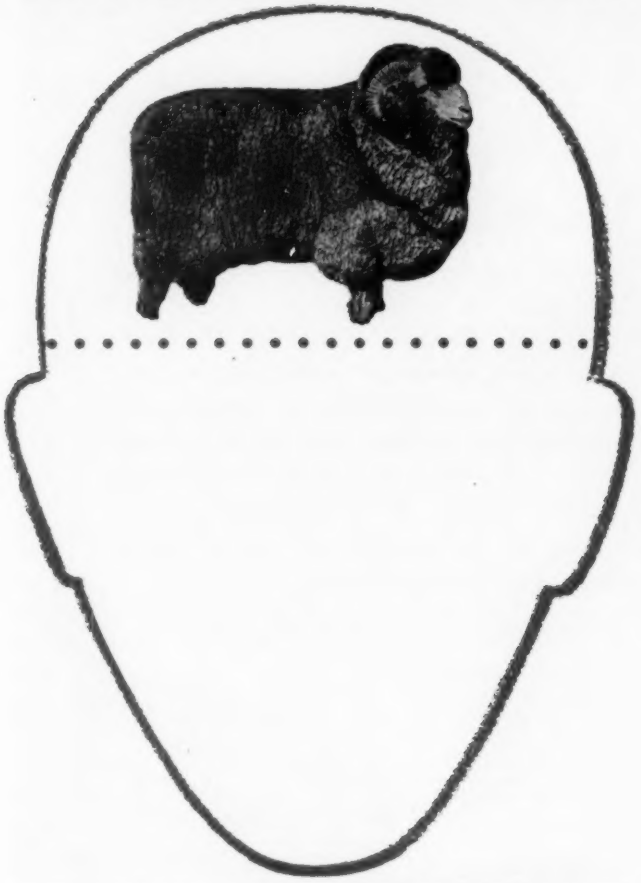
FOOT OF SUFFOLK STREET, LOWELL, MASS.

"The Fleet Line" — **A COMPLETE LINE** of modern equipment to successfully handle present day wet-finishing, carbonizing and dyeing requirements.

**DOMESTIC & CANADIAN AGENTS:** — Paul A. Merriam, 1491 Broad St., Providence, R. I. • Charles H. Dunker, 1236 South Maple Ave., Los Angeles 15, Calif. • Albert R. Breen, 80 E. Jackson Blvd., Chicago 4, Ill. H. E. Mott Co., Ltd., Brantford, Ontario, Canada

**EXPORT AGENTS:** — Latin America — Balkan States, Egypt, Palestine, India — Meyer, Lyra & Co., 228-298 Fulton St., N. Y., N. Y. • South Africa — Noel F. Hunt, Pty., Ltd., Embassy House, 326 West St., Durban, South Africa • China — G. R. Coleman & Co., Inc., 80 Church St., N. Y., N. Y.

# when you think of wool...

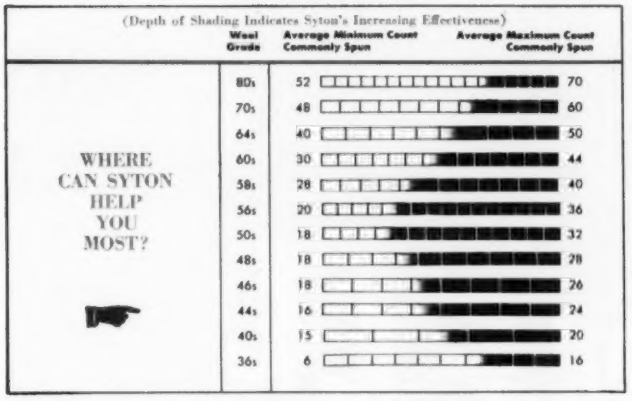


## think of

# SYTON

Woolen and worsted processing for civilian consumption is again at a high level. Competition is heavy . . . good reason why you should give some extra thought to Syton, Monsanto's silica sol for more efficient and profitable spinning.

Syton boosts the yarn strength of woolens and worsteds from 10 to 30%, depending upon the particular construction. Spinnability is further improved since, with Syton, you get fewer ends down . . . rounder woolen ropings with less apron pressure . . . finer counts from equal stocks . . . equal yarn strength with less twist.




**JUST AS EFFECTIVE ON BLENDS—**

Syton yields similar processing advantages when used in synthetic-wool blends. In addition, it helps control inter-fiber slippage by causing the smooth synthetic staple to behave more like a serrated wool fiber.

Syton: Reg. U. S. Pat. Off.

**ASK FOR NEW SYTON BOOKLET, JUST PUBLISHED**

MONSANTO CHEMICAL COMPANY,
Textile Chemicals Dept., Desk TWT-1
Everett Station, Boston 49, Mass.

Please send me new Syton booklet.

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Company _____

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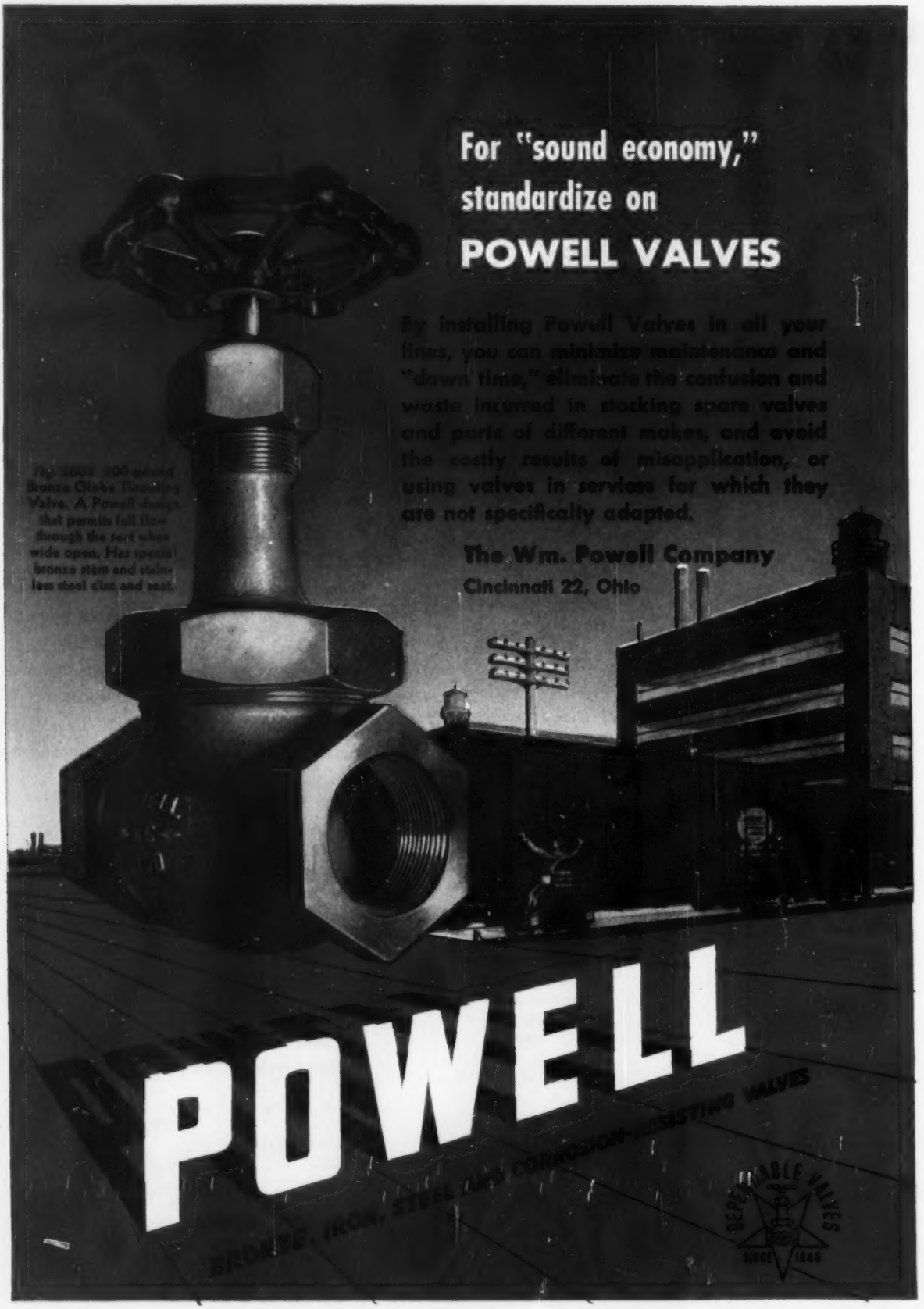
For "sound economy," standardize on
POWELL VALVES
By installing Powell Valves in all your lines, you can minimize maintenance and "down time," eliminate the confusion and waste incurred in stocking spare valves and parts of different makes, and avoid the costly results of misapplication, or using valves in services for which they are not specifically adapted.
The Wm. Powell Company
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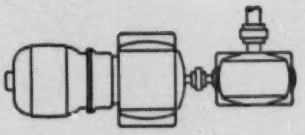
No. 2095 200-pound Bronze Globe Throttling Valve. A Powell design that permits full flow through the port when wide open. Has special bronze stem and stainless steel disc and seat.
POWELL
BRONZE, IRON, STEEL AND CORROSION-RESISTING VALVES
DEPENDABLE VALVES
SINCE 1846

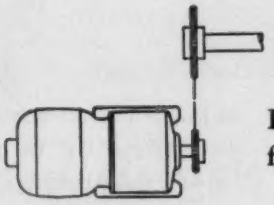
# Which of these speed reduction jobs is yours?

High-ratio reduction with right-angle takeoff?



Get a LINK-BELT Worm Gear Drive

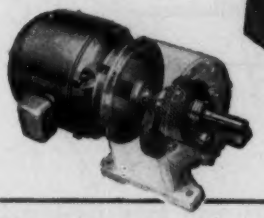
Reduction ratios: 3.1:1 to 8000:1. Torque: 1400 to 123,000 in. lbs. Output shaft rpm: 0.22 to 564. Drawing shows motorized P.I.V. variable speed and worm gear drives direct-coupled.

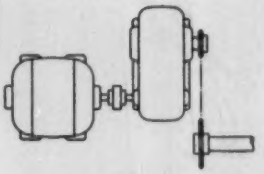


Restricted space for mounting?

Get a LINK-BELT Gearmotor

Reduction ratios: 6.2:1 to 292:1. Hp range: 1 to 30. Output shaft rpm: 6 to 280. Drawing shows gearmotor with roller chain drive.

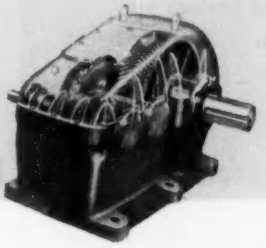




High hp with parallel shaft takeoff?

Get a LINK-BELT Herringbone Gear Drive

Reduction ratios: 2.84:1 to 318:1. Hp range: ½ to 1000. Output shaft rpm: 2 to 600. Drawing shows motor with herringbone gear and roller chain drives.



## Yes, LINK-BELT builds all 3

NO LONGER need speed reduction be the limiting factor in a design or application problem. Because no *one* speed reducer solves every reduction problem, Link-Belt builds all three—Helical, Herringbone and Worm. Now it is only necessary to choose the right type of Link-Belt enclosed gear drive . . . and select the hp and reduction ratio that fit your requirements. You can get complete engineering information from the Link-Belt office near you.

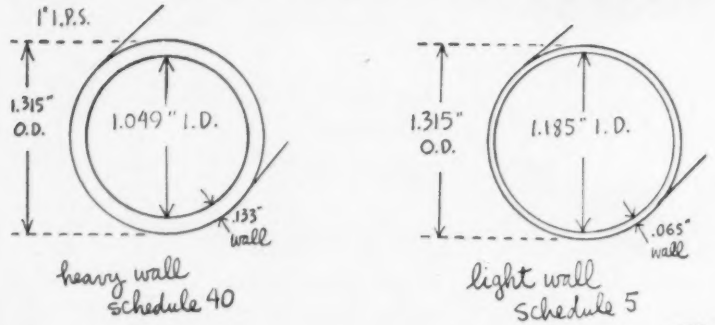
12,603

**LINK-BELT**

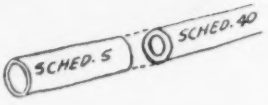
**ENCLOSED GEAR DRIVES**

LINK-BELT COMPANY Chicago 9, Indianapolis 6, Philadelphia 40, Atlanta, Houston 1, Minneapolis 5, San Francisco 24, Los Angeles 33, Seattle 4, Toronto 8, Springs (South Africa), Sydney (Australia). Offices, Factory Branch Stores and Distributors in Principal Cities.

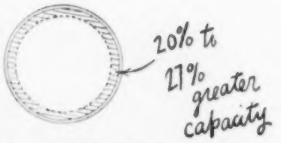
# here's what you gain with stainless schedule 5 pipe



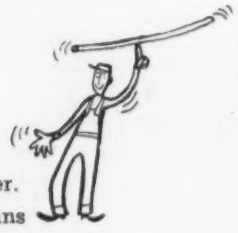
You save money. Schedule 5 pipe costs about half as much per foot as Schedule 40.




Schedule 5 has the same O.D. as Schedules 10, 40 and 80 —for hook-up with existing lines as well as for new installations.

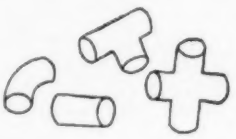



Its larger I.D. increases flow and capacity in pipelines, exchangers and other equipment.



It's lighter. This means quicker and easier installation.

You can save substantially on valves, fittings, weld rods, etc., because smaller O.D. material can frequently be used. Tubing sizes can now be replaced with light wall pipe . . . for ready hook-up with standard valves, pumps, and other equipment normally manufactured in pipe sizes.



Fittings as well as stocks of Schedule 5 pipe are carried by conveniently located Carpenter distributors.

***Specify Schedule 5 pipe . . . it saves dollars . . . and makes a lot of sense!***

**THE CARPENTER STEEL COMPANY**
**Alloy Tube Division, Union, N. J.**

Export Dept : The Carpenter Steel Co., Port Washington, N.Y. "CARSTEELCO"

*Data Sheets* give you complete information about Carpenter Schedule 5 Stainless Pipe. Write for your personal copy.

# *Carpenter*

THE U.S. NEEDS YOUR STEEL SCRAP NOW

more than corrosion resistance

**STAINLESS TUBING & PIPE**

Analysis · Tolerance · Finish

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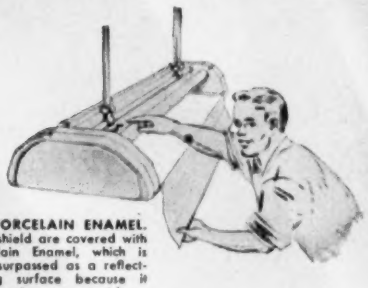
now, a new high in seeing comfort

# through sensationally-increased UPWARD LIGHT...

Now, approximately ¼ of light is directed UPWARD through a completely new, precedent-shattering concept of lighting unit design! The new Benjamin "Task-Master" is the modern solution to the brightness ratio problem. By combining greater upward flow of light with a new high of 35° in lamp shielding, "Task-Master" doubles, even triples, present standards for industrial seeing comfort. In addition to sensationally-increased UPWARD light and lamp shielding, "Task-Master" features revolutionary new, easier methods of installation and maintenance, such as those illustrated below. Send for FREE "Task-Master" Bulletin, giving further details. Write for Bulletin AD 5906. Benjamin Electric Mfg. Co., Dept. EE, Des Plaines, Illinois.

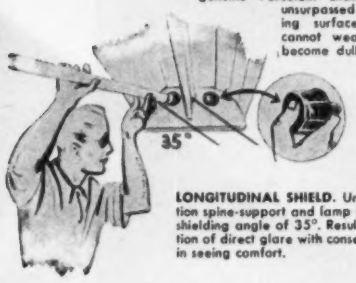
**BENJAMIN "Task Master"**

*Sold Exclusively through Electrical Distributors*



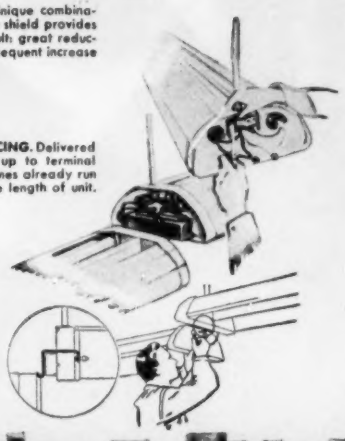
**DETACHABLE REFLECTORS** are hinged to make possible easier, more thorough cleaning right on the fixture. They may also be detached and cleaned away from the unit. Available with sliding hangers, as shown.

**"LIFE-TIME" PORCELAIN ENAMEL.** Reflectors and shield are covered with genuine Porcelain Enamel, which is unsurpassed as a reflecting surface because it cannot wear, scratch or become dull.



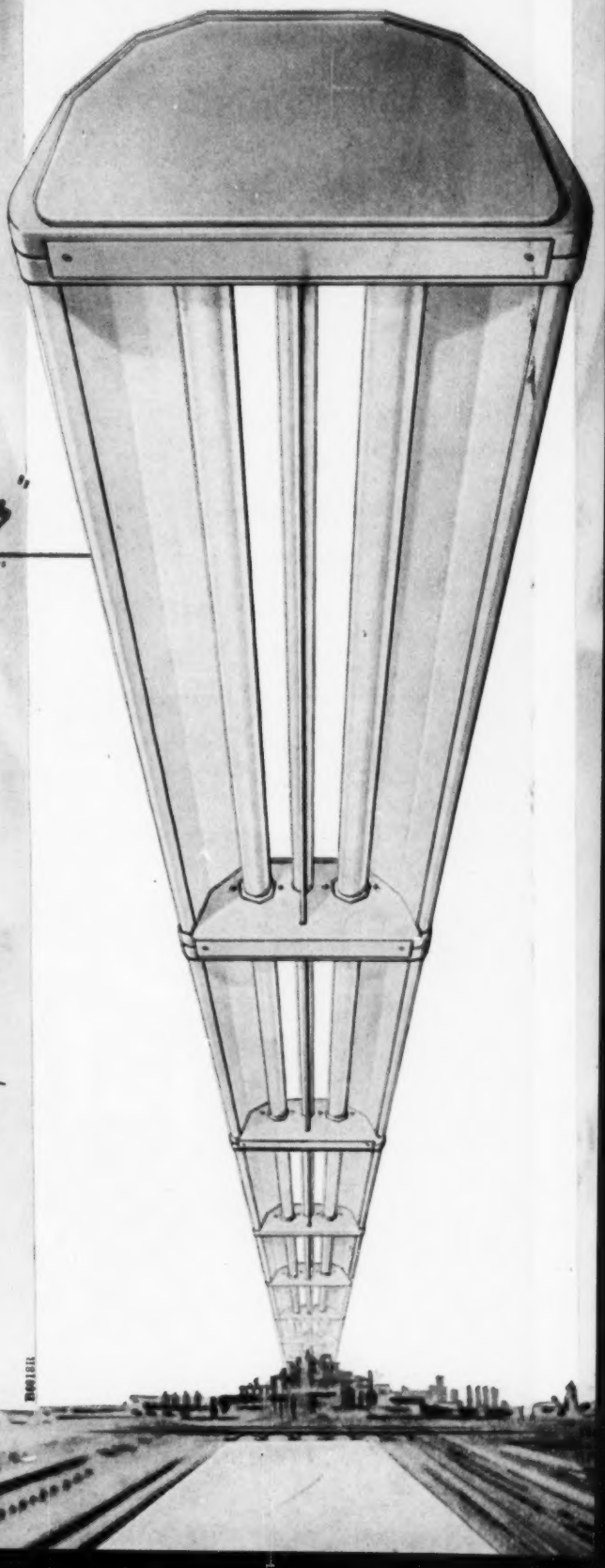

**"SPRINGLOX" LAMPHOLDERS** are standard equipment. These rugged, all-metal, lifetime lampholders facilitate lamping and relamping through patented spring design.

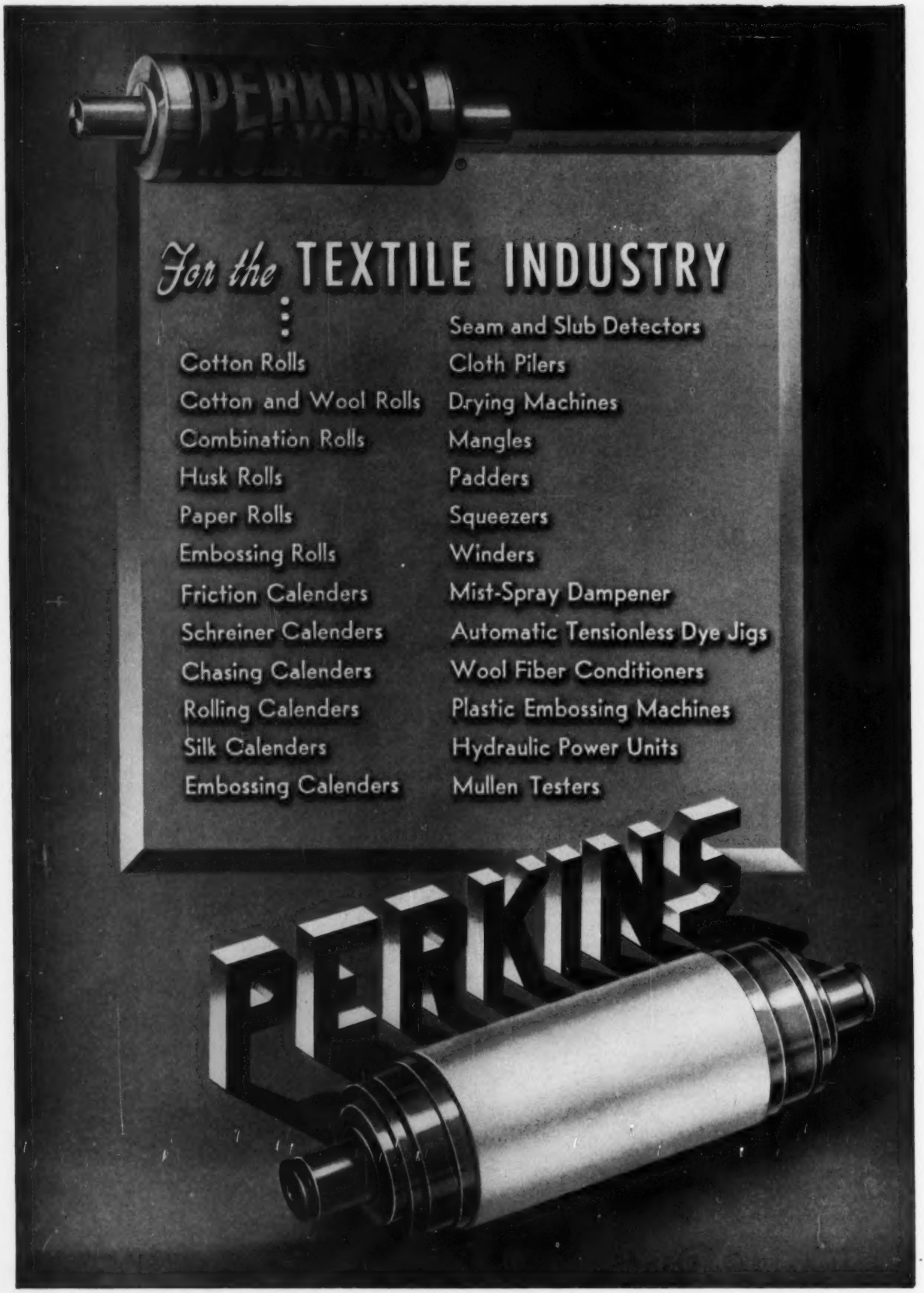
**LONGITUDINAL SHIELD.** Unique combination spine-support and lamp shield provides shielding angle of 35°. Result: great reduction of direct glare with consequent increase in seeing comfort.



**PRE-WIRED—NO WIRE SPLICING.** Delivered with all connections made up to terminal block. Branch-circuit wire comes already run through spine support, entire length of unit.

**SPECIAL "HOOK-UP" DESIGN** makes it possible for the installer to temporarily hang one unit on another while connecting the jumper wires to opposite terminal blocks.

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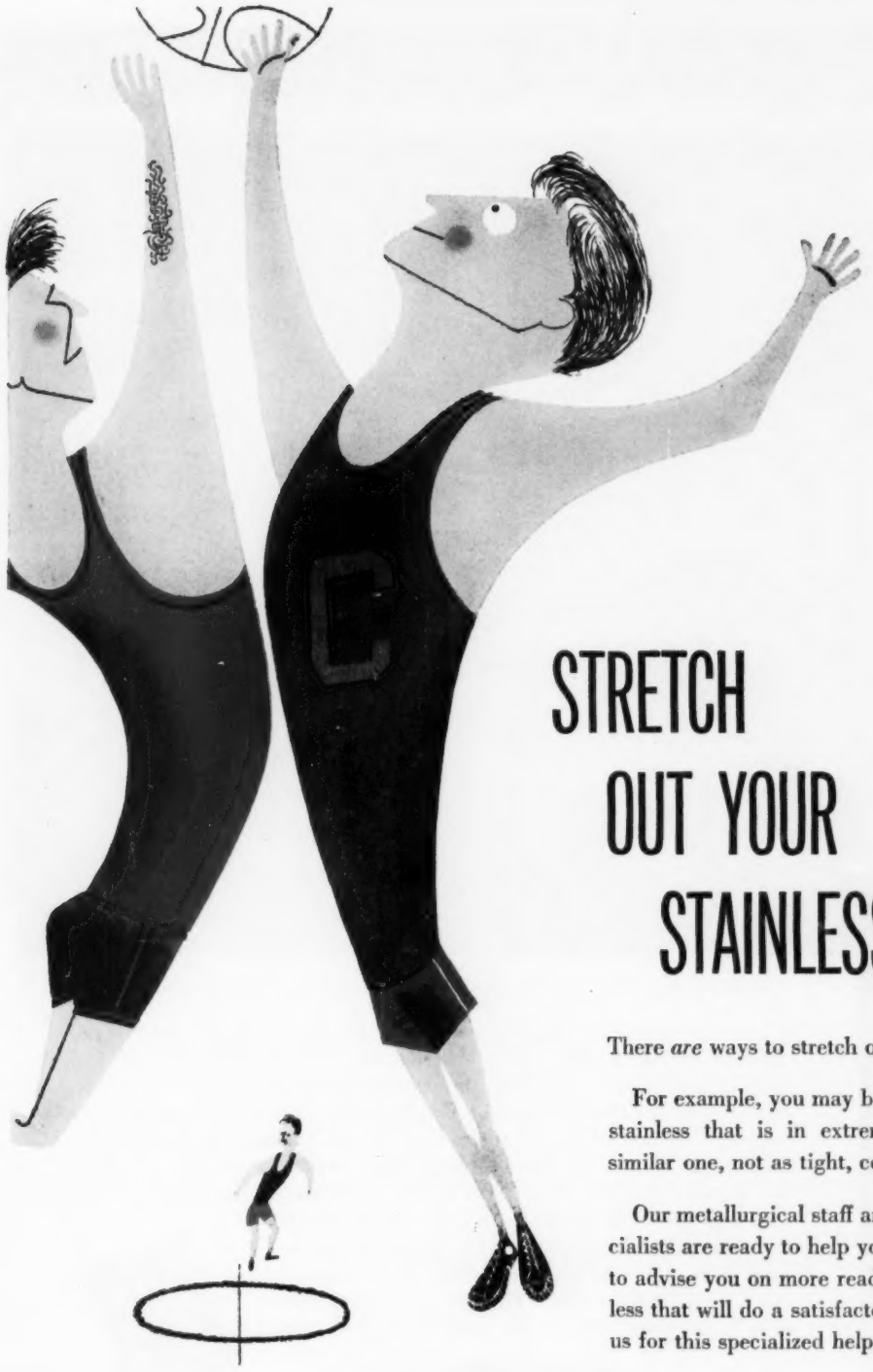
Mist-Spray Dampener
Automatic Tensionless Dye Jigs
Wool Fiber Conditioners
Plastic Embossing Machines
Hydraulic Power Units
Mullen Testers
PERKINS



# STRETCH OUT YOUR STAINLESS, TOO

There *are* ways to stretch out your supply of stainless.

For example, you may be using a grade or finish of stainless that is in extreme demand when another similar one, not as tight, could do the job adequately.

Our metallurgical staff and stainless fabricating specialists are ready to help you look into this matter and to advise you on more readily-available types of stainless that will do a satisfactory job. Feel free to call on us for this specialized help.

**CRUCIBLE** first name in special purpose steels

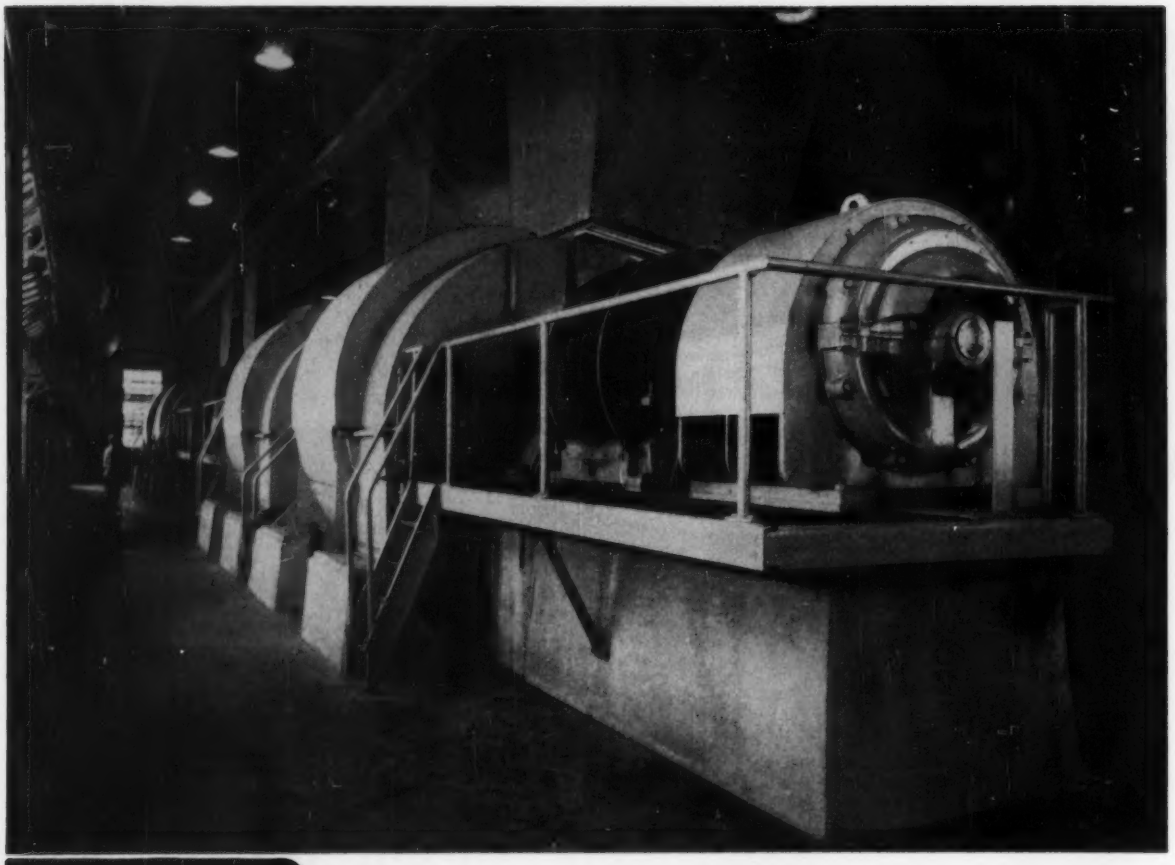
*52 years of Fine steelmaking*

**STAINLESS STEEL**

CRUCIBLE STEEL COMPANY OF AMERICA, GENERAL SALES OFFICES, OLIVER BUILDING, PITTSBURGH, PA.

REZISTAL STAINLESS • REX HIGH SPEED • TOOL • ALLOY • MACHINERY • SPECIAL PURPOSE STEELS

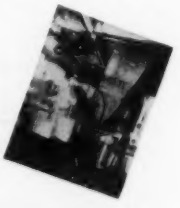
# LOW-COST KILOWATTS in PRODUCTION!



A battery of large size "Buffalo" Double Inlet Induced Draft Fans in a large eastern power station.

"Buffalo"
**DRAFT FANS on the JOB**

Efficient draft is half the battle in lowering the cost of power production, and many a firm has won this battle by installing "Buffalo" Draft Fans. First, because they are efficient—save on driving power. Second, because they are long-lived on industry's most severe fan job. For instance, the "Buffalo" Induced Draft Fans shown above are handling a continuous storm of hot, abrasive fly-ash. "Buffalo" Draft Fans are built for endurance. Housings and rotors are heavy steel plate. Shafts and bearings are oversize. And all parts are accessible for inspection and servicing. Why not write now for Bulletin 3750 and see the full line of "Buffalo" Draft Fans that are cutting power costs by reducing time-out for maintenance and repair.



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FIRST FOR FANS

**"Buffalo" BUFFALO FORGE COMPANY**

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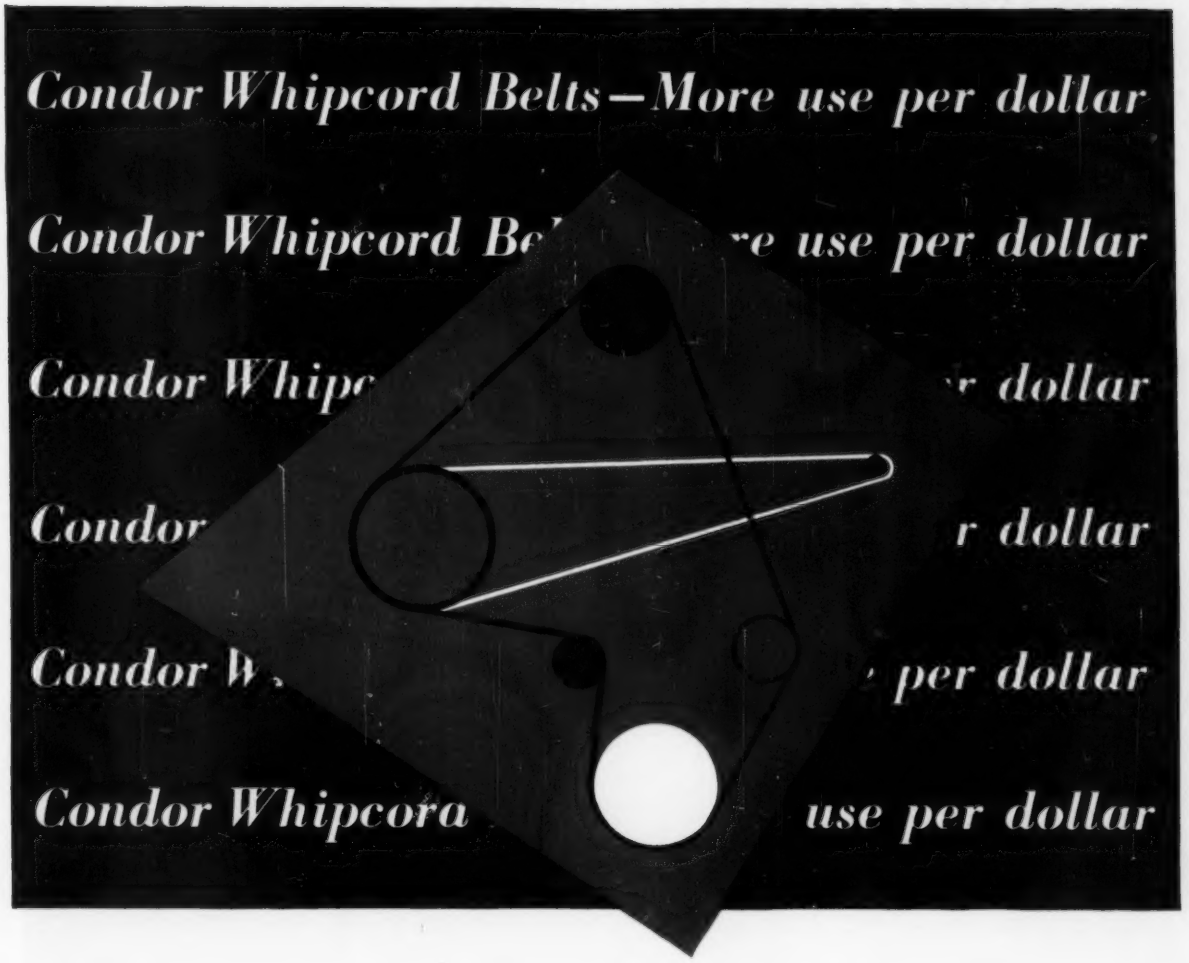
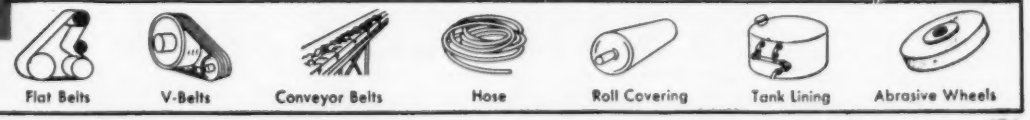



**ENDLESS BELTS BUILT TO TAKE THE TURNS . . .** Designed for "Belt-killer" drives, Condor Whipcord Belts save you money on all endless belt drives. They are specially engineered for short centers, small pulleys, reverse bends, high speed, high tension. They are practically unaffected by variations in atmosphere—no shrinkage—no stretch on the drive. This saves you downtime for belt take-up. The R/M Extensible-Tip cover-end splice eliminates cover separation. You get MORE USE PER DOLLAR. Ask the R/M distributor for Bulletin 6869. He can help you get MORE USE PER DOLLAR too with R/M hose, conveyor and V-belts.

MANHATTAN RUBBER DIVISION — PASSAIC, NEW JERSEY

**RAYBESTOS-MANHATTAN, INC.**

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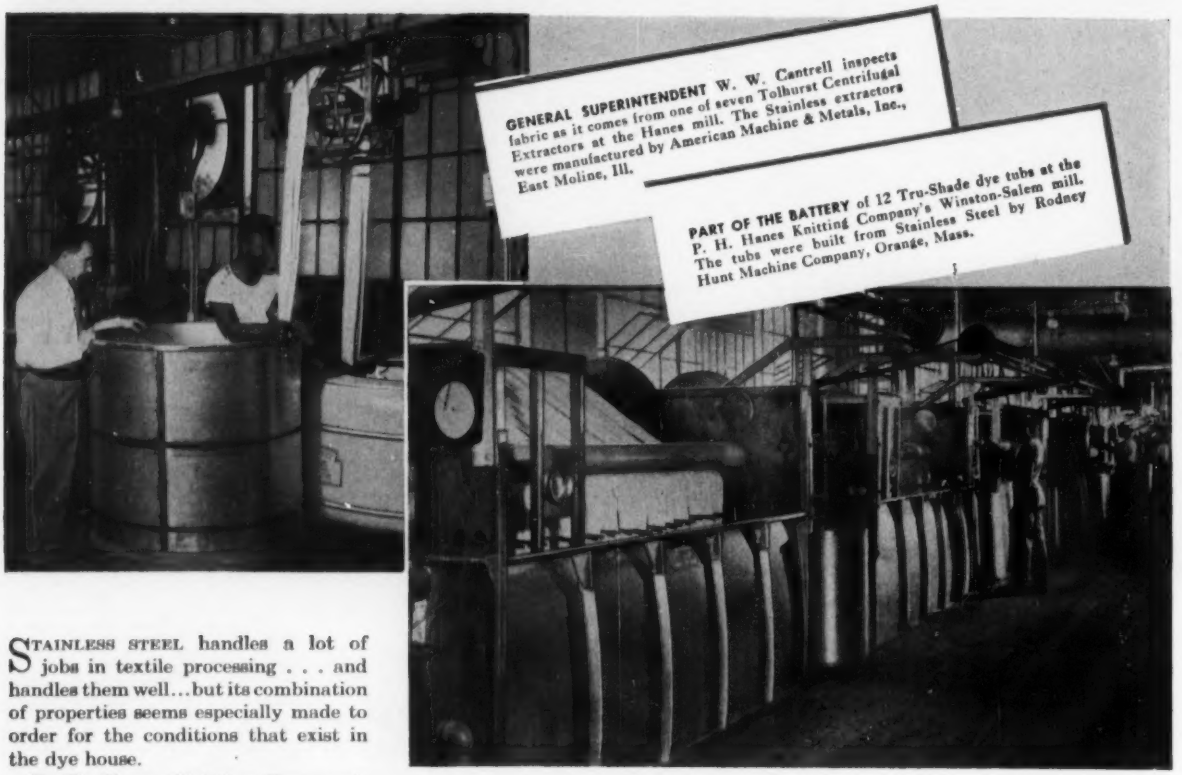
# LONG-LASTING, EASY-TO-CLEAN STAINLESS STEEL

## is P. H. Hanes Knitting Company's choice for extractors and dye tubs



**GENERAL SUPERINTENDENT** W. W. Cantrell inspects fabric as it comes from one of seven Tolhurst Centrifugal Extractors at the Hanes mill. The Stainless extractors were manufactured by American Machine & Metals, Inc., East Moline, Ill.

**PART OF THE BATTERY** of 12 Tru-Shade dye tubs at the P. H. Hanes Knitting Company's Winston-Salem mill. The tubs were built from Stainless Steel by Rodney Hunt Machine Company, Orange, Mass.

STAINLESS STEEL handles a lot of jobs in textile processing . . . and handles them well...but its combination of properties seems especially made to order for the conditions that exist in the dye house.

P. H. Hanes Knitting Company's mill at Winston-Salem, N. C., passes along a favorable report on the Stainless Steel equipment in its dyeing and bleaching department. Seven centrifugal extractors, installed in 1941, and 12 dye tubs, installed between 1946 and 1948, owe their performance records to Stainless Steel construction.

General Superintendent W. W. Cantrell says, "The things we like most about Stainless Steel equipment are that Stainless is long lasting, easily cleaned and free from maintenance problems."

The smooth, dense, durable surface of Stainless Steel guards against snagging of threads and fabrics. The ease with which it can be cleaned prevents color carry-over even when going from a dark to a light shade. And there's no chance of rust spots or stains on the fabric from the Stainless equipment.

If you're using Stainless equipment today, you've seen what a difference it can make in processing operations. It will pay you to look further for jobs where you can take advantage of its unique combination of properties. And when you do, ask your equipment fabricator to use perfected, service-tested U·S·S Stainless Steel.

UNITED STATES STEEL CORPORATION, PITTSBURGH • AMERICAN STEEL & WIRE DIVISION, CLEVELAND • COLUMBIA-GENEVA STEEL DIVISION, SAN FRANCISCO
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**U·S·S STAINLESS STEEL**

USS

SHEETS · STRIP · PLATES · BARS · BILLETS · PIPE · TUBES · WIRE · SPECIAL SECTIONS

3-08

UNITED STATES STEEL

# Cut Your V-Belt Costs Right Now!

***—this test tells how!***

If you want longer V-Belt wear and lower V-Belt costs just make this simple test. Bend any V-Belt that has *straight sides* and—as it bends—*feel* the sides bulge out! (See Fig. 1-A, below)

This out-bulge forces the belt to press unevenly against the V-pulley and of course wear on the belt is concentrated where it bulges most. Naturally this shortens the life of a *straight-sided* V-Belt.

Now, make this same test with the belt that is built with *concave sides*—the Gates Vulco Rope!

See the difference? There is no *out-bulge!* The precisely engineered concave sides *fill out* and become *perfectly straight.* They now *exactly fit* the sheave groove and therefore *press evenly* against the V-pulley. This distributes all wear *uniformly* across the *full width* of the Gates Vulco Rope. And this means longer belt life and *lower belt costs* for you.

Only V-Belts made by Gates are built with concave sides. Whenever you buy V-Belts, be sure that you get the V-Belt with Concave Sides—the Gates Vulco Rope!

Gates Engineering Offices and Jobber Stocks are located in all industrial centers of the United States and in 71 foreign countries.

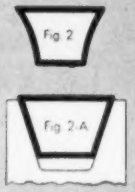
Bender Bros., Inc., Camden, New Jersey, replaced flat belts on this Garnett machine with Gates Vulco Ropes, as shown. The replacement has saved Bender Bros. more than $1000 in yearly maintenance expense.

**What Happens When a V-Belt Bends**

**Straight-Sided V-Belt**

How a Straight-Sided V-Belt Bulges in the Sheave-Groove. Sides Press Unevenly Against the V-Pulley, Causing Extra Wear at Point Shown by the Arrows.

**Gates Vulco Rope With Concave Sides**




The Concave Sides Fill Out to Precise Fit in Sheave-Groove. No Side-bulge! Sides Press Evenly Against the V-Pulley —Uniform Wear and Longer Life!

CS-531

Gates® VULCO ROPE DRIVES

THE GATES RUBBER COMPANY • DENVER, U.S.A.

**V-Belts—Hose Molded Rubber Goods for industry World's Largest Maker of V-Belts**

## Rayon...Acetate...Nylon...Orlon...Dacron

HONEYWELL now extends the scope of the *Moist-O-Graph* principle . . . making a single instrument capable of measuring percent moisture in *any* warp, simply by turning a switch.

### used by leading mills

For mills which process varied types of fibres using different sizing materials, this advancement means that the full advantages of complete slasher control are always realized. The method has been thoroughly tested in both laboratory and mill. It is working today on acetate, viscose and nylon yarn, spun yarn, and worsted and rayon blend—sized with gelatin, starch, Stymer or Orthocryl. Among the leading mills which use *Moist-O-Graph* are:

Pansy Weaving Company — Textron
Stehli and Company — Beaunit Mills
Green Halgh Mills — Canadian Celanese
Chicopee Manufacturing Company

### reads regain directly

Today's *Moist-O-Graph* incorporates features which Honeywell has developed following more than 15 years of pioneering experience in this field. Notable among these features are the instrument's direct reading scale and chart . . . the slasher operator doesn't have to interpret, consult tables. He sees on the instrument an indicated and recorded measurement that immediately tells him actual percent regain. And this calibration is made *at the factory* . . . does not require field adjustment. The measuring instrument is an *ElectroniK* recorder, famous throughout industry for accuracy and dependability.

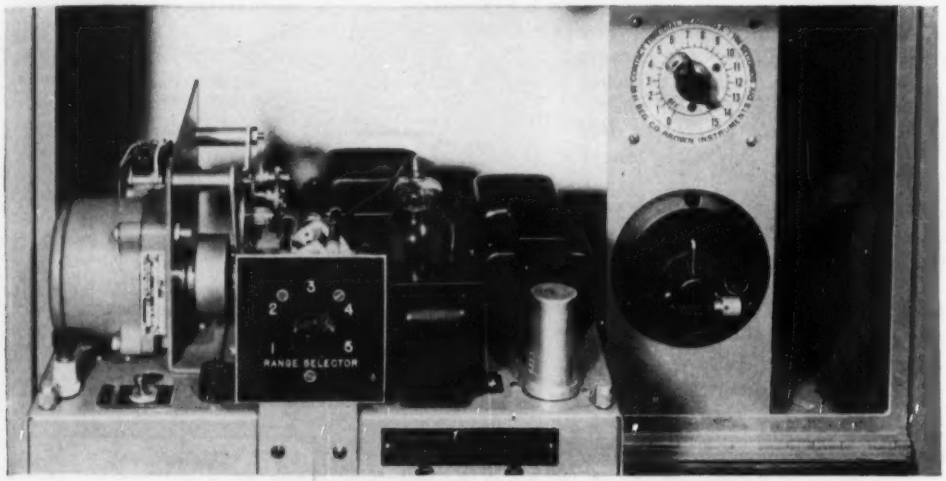
### multiple range

When there's a change in the fibre fed to the slasher, or in the size used, all the operator has to do is turn a selector switch to the proper range. The calibration then applies to the new operating conditions. The only other adjustment that the operator has to make is to set the index at the desired regain.

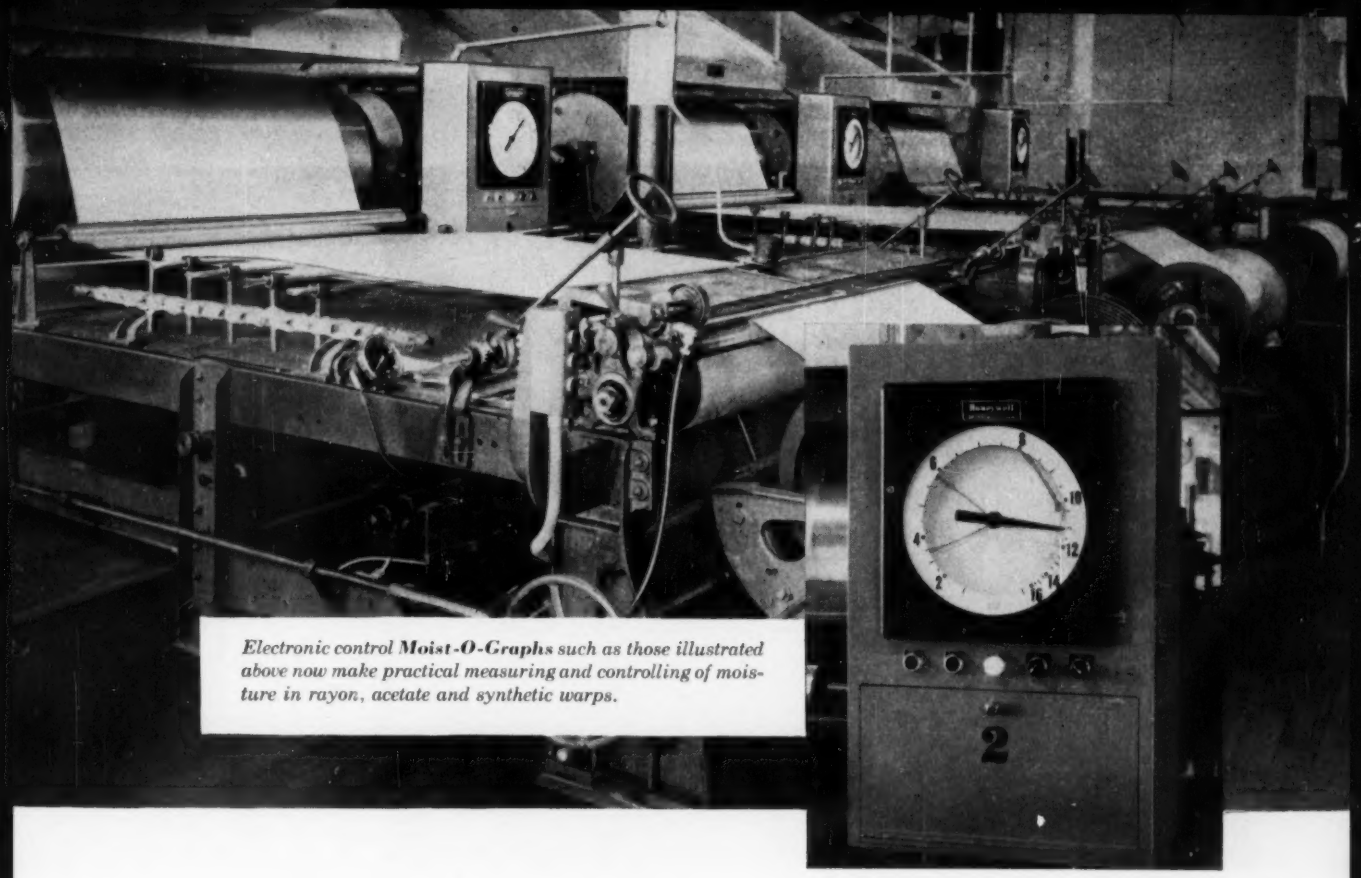
### part of complete slasher system

For automatic control of regain, the *Moist-O-Graph* regulates slasher speed to maintain the correct drying rate. The result is that the slasher operates at the maximum speed possible for a given warp. This control is integrated with other Honeywell instruments, which are combined into complete systems for efficient, centralized regulation of the entire slashing process.

# *Moist-O-Graph*®— of rayon,




*A turn of this switch changes the* ***Moist-O-Graph*** *calibration to read percent regain directly, for any fibre, blend and/or size.*



*Electronic control* ***Moist-O-Graphs*** *such as those illustrated above now make practical measuring and controlling of moisture in rayon, acetate and synthetic warps.*

# for controlled regain acetate and synthetic yarns

REGARDLESS of the fibre you're processing, you can measure and control warp moisture directly by means of the versatile, electronic multi-range *Moist-O-Graph*.

In leading mills, such as those listed on the opposite page, this instrument is making possible better weaving through more uniform warp, by controlling at uniform moisture . . . providing correct moisture . . . preventing wet warp . . . eliminating overdrying . . . and assuring uniform stretch.

Added to this benefit of better weaving is the attendant increase in slasher room production, made possible by the fact that the *Moist-O-Graph*:

- *prevents overdrying of yarn, resulting in fewer stoppages*
- *makes possible higher running speed*
- *provides operation records*

Our local Honeywell engineering representative will be glad to give you full details on how this instrument can help improve slasher efficiency in your mill. Call him today . . . he is as near as your phone.

MINNEAPOLIS-HONEYWELL REGULATOR CO., *Industrial Division*, 4509 Wayne Ave., Philadelphia 44, Pa. Sales and service offices in more than 110 principal cities of the United States.

● **REFERENCE DATA: Write for new Bulletin No. 54-66.**

MINNEAPOLIS
**Honeywell**
BROWN INSTRUMENTS
*First in Controls*

# When you convert old frames for LONG-DRAFT SPINNING

## *Call your Armstrong man*—talk over your

**LET YOUR ARMSTRONG MAN** be your "consultant" on roll covering. He can often save you time and trouble. Call him in . . . anytime.

Today, many mills are getting extra production from their regular draft frames by converting them to long-draft spinning.

If you're considering a change of this kind, don't overlook the importance of checking your roll covers. The heavier roving in long-draft spinning may require a change in the type of cot you use.

You'll find it helpful to discuss this problem with your Armstrong man. He's familar with all long-draft installations—usually you'll find he's had experience with the very equipment you're planning to put in. He'll be able to make recommendations you can count on.

His specialized training and experience are backed by Armstrong's years in the textile field and close contact with machinery manufacturers. It's a combination that should—and does—provide the answer to almost any question involving roll covers.

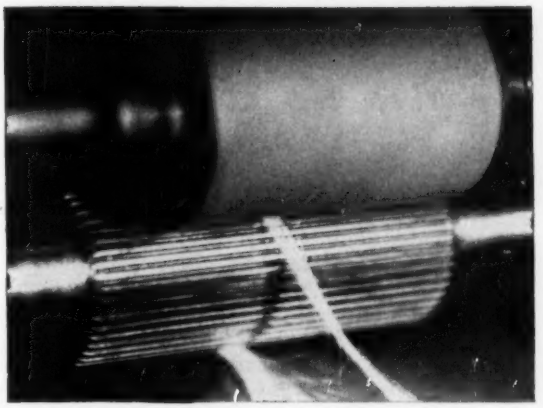
**ARMSTRONG'S**

# roll covering requirements with him

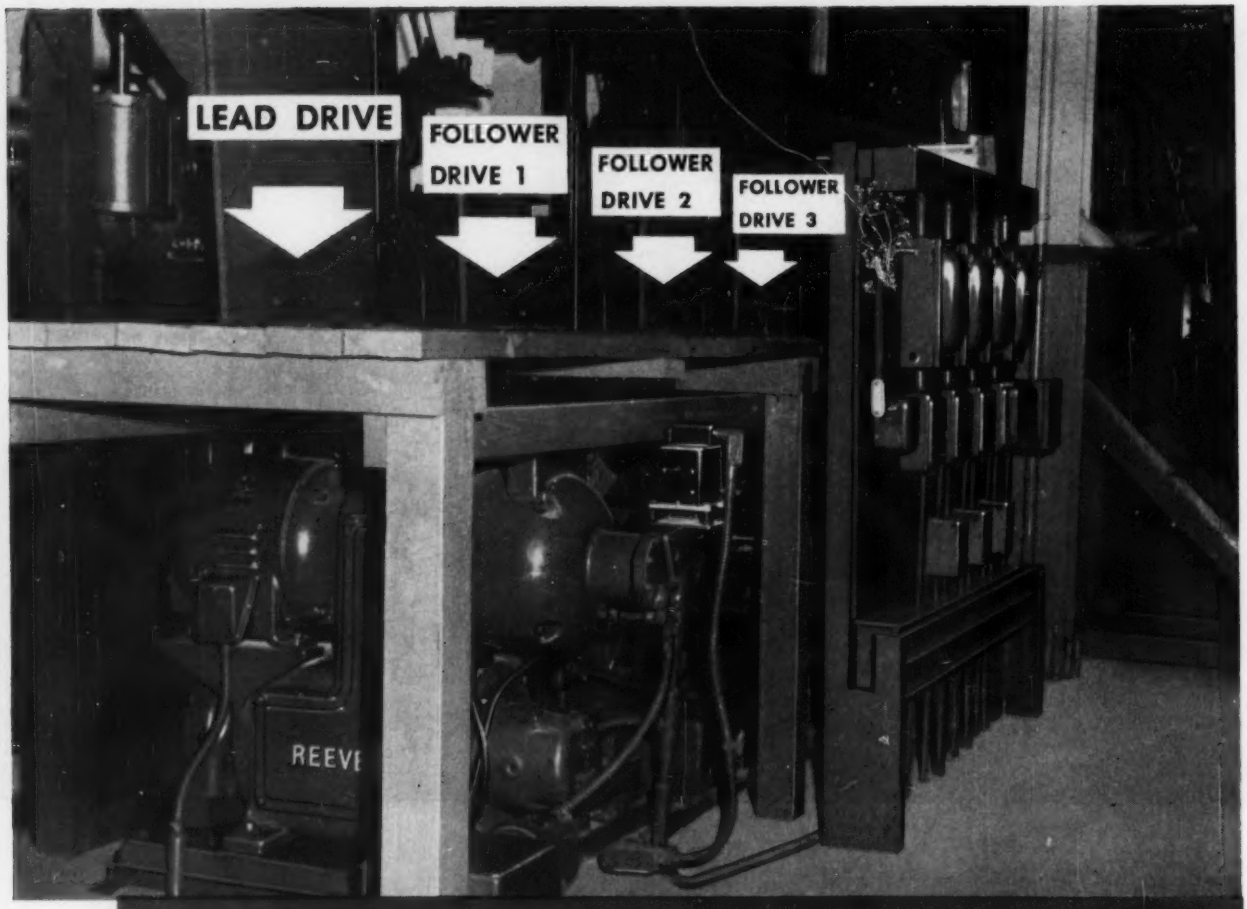
And when you need new cots, you'll find the kind you need in the Armstrong Line. In addition to cork, Armstrong makes long-wearing, lap-resistant Accotex® Cots. They're available in several formulations of cork-and-rubber as well as straight rubber. Each type is made in varying degrees of firmness to provide the right amount of cushion for a given spinning job.

Be sure to call on your Armstrong man whenever you need help on a roll covering problem. In most cases, he'll be at your mill within a day of your call. One more thing—if you want samples of Armstrong's Accotex Cots for testing on your frames, you can get them from your Armstrong man, or you can write Armstrong Cork Company, Textile Products Department, 8301 Arch Street, Lancaster, Pennsylvania. All Accotex products are available for export.

# ACCOTEX COTS



**LONG-WEARING ACCOTEX COTS RESIST LAPPING.** A break in the yarn means almost instant lapping with most roll covers . . . but not with Accotex Covers. Every Accotex Cot contains certain electrolytes that remove the basic cause of lapping—the attraction between electrical charges in the moisture layers on both cot and fiber. This lap resistance gives broken ends plenty of time to reach the scavenger roll before lapping can occur. It practically eliminates ends down due to lapping. Remember, too, Accotex Cots give up to six years' spinning with a minimum of rebuffing.




# REEVES —

## —with no costly current conversion problems!

REEVES A-C Range Drives give you accurate, immediate, infinitely variable speed control, plus automatic inter-drive synchronization for your range . . . *without* costly current conversion units. *No generators are needed with Reeves A-C Range Drives!* Moreover, REEVES A-C Drives are constant-torque drives. They do not need oversize capacity for reduced speeds. And that means lower operating expense for you.

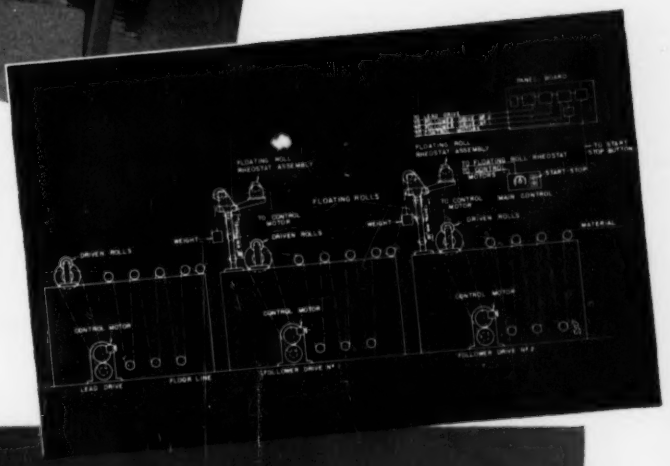
### Additional Units May Be Added To Reeves *Mechanical* Drive

Since the REEVES Range Drive is a *mechanical* drive, you gain two important advantages: Any number of follower drive units may be added to the original REEVES installation *without* adding generators or conversion equipment. Repairs and maintenance are easier, too. Less complicated for plant mechanics . . . less costly for you.

### Operating Speed is Controlled Automatically

In all REEVES Range Drives, the operating or material speed is set through the lead drive—with the whole system controlled from one control panel. Each follower drive may be adjusted at any time by its own individual manual controls. Once the range is operating, automatic controls "take over." As speed variations occur because of stretch, shrink or load changes between units, REEVES automatically compensates for the changes and brings all units back into synchronization.

Shown here are two views of the **REEVES RANGE DRIVE** installation on a washing range at the Bishopville Finishing Company, Bishopville, South Carolina.



**TYPICAL REEVES RANGE DRIVE**—Floating rolls operate automatically to compensate for speed variations — actuated by the tendency for increase or decrease in tension of the material. This keeps all units in perfect synchronization.

# —the only A-C RANGE DRIVE

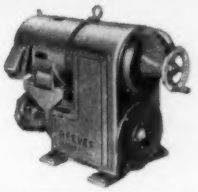
## Reeves Engineers Can Help You

REEVES' staff of application engineers is available at all times to help you solve your variable speed control problems. For more complete information regarding the REEVES A-C Range Drive and the REEVES Consulting Service, write to Department W 88-R.

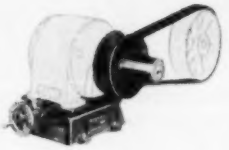
**REEVES PULLEY COMPANY • COLUMBUS, INDIANA**

Recognized Leader in the Specialized Field of Variable Speed Control

accurate • variable **REEVES** *Speed Control*

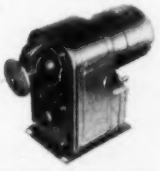


**VARI-SPEED MOTODRIVE** combines motor, speed changing mechanism and gear reducer in one unit. Speed variations as great as 10 to 1. Sizes to 25 hp.



**VARI-SPEED MOTOR PULLEY** converts any standard, constant speed motor to a variable speed drive. Speed variations up to 4 to 1. Sizes to 10 hp.

**VARIABLE SPEED TRANSMISSION** provides infinite, accurate, stepless speed adjustability over a wide range—as high as 16 to 1. Sizes to 87 hp.



**FRACTIONAL MOTODRIVE** provides a smaller variable speed motodrive unit for light horsepower applications. Available in ¼, ⅓, ½ and ¾ hp units.

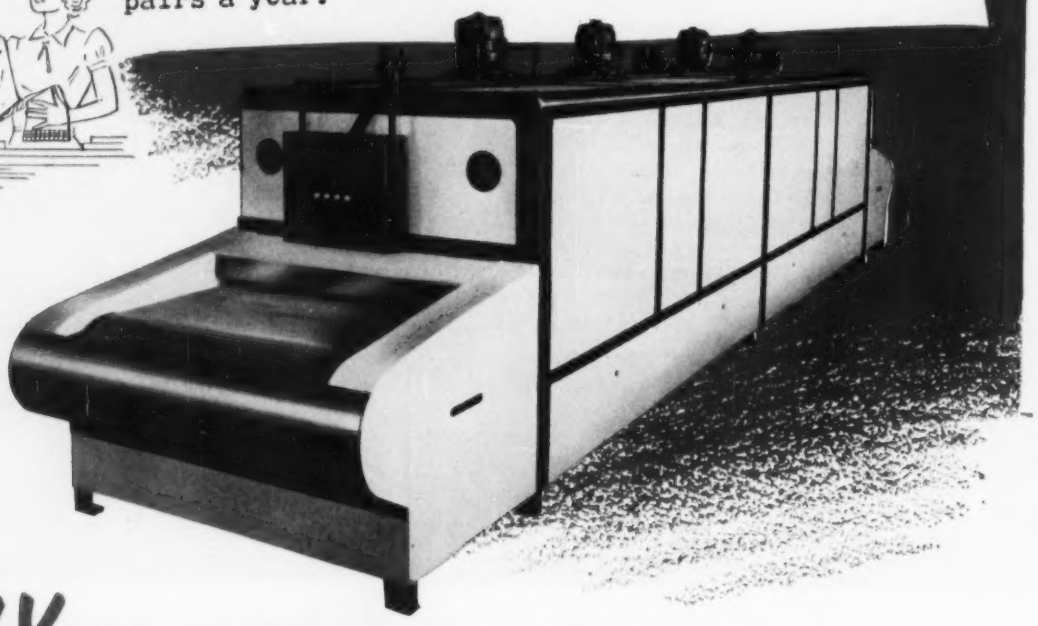


For more information, write direct or use Reader Service post card.

# PROGRESS REPORT on the New SMITH-DRUM Nylon Hosiery Drying Machine . . .

## Production: From Zero to 17,000,000 DOZEN Pairs Annually in only 2 Years!

Introduced only 2 years ago, this new SMITH-DRUM Machine is now in operation in many of the country's leading mills. They are now handling a substantial portion of total annual production of ladies' full-fashioned nylon stockings . . . 17,000,000 dozen pairs a year.



## *WHY* this Amazingly Fast Acceptance?

The reasons for this remarkable acceptance are obvious when you know these facts reported by users:

1st—An average labor cost for the drying operation of only 2½c per dozen pairs—compared with 12½c by post-boarding methods.

2nd—A big reduction in number of menders with subsequent saving in mending costs.

3rd—Appearance superior to post-boarded production, whether regular or combination preset and post-board method.

Can you meet this competition with your present post-boarding costs and results? Let us give you complete information. Write

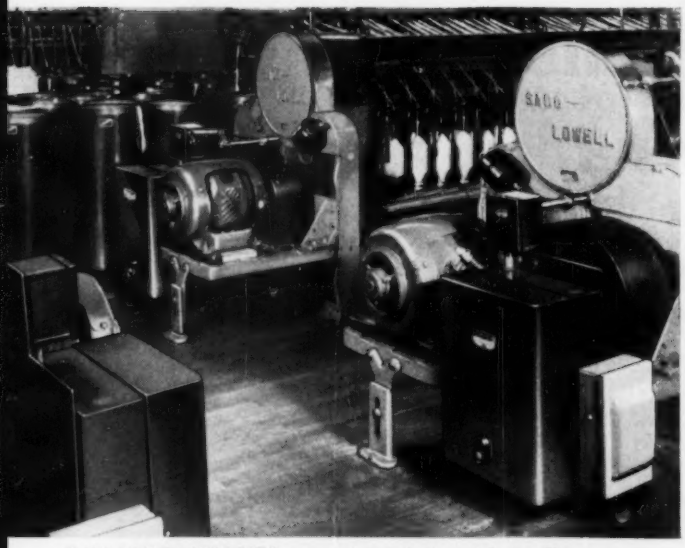
**SMITH, DRUM & COMPANY**
**432 W. Allegheny Avenue, Philadelphia 33, Penna.**

*Southern Sales Representatives:*
**PARROTT & BALLENTINE**
**610 South Carolina National Bank Bldg.**
**Greenville, South Carolina**

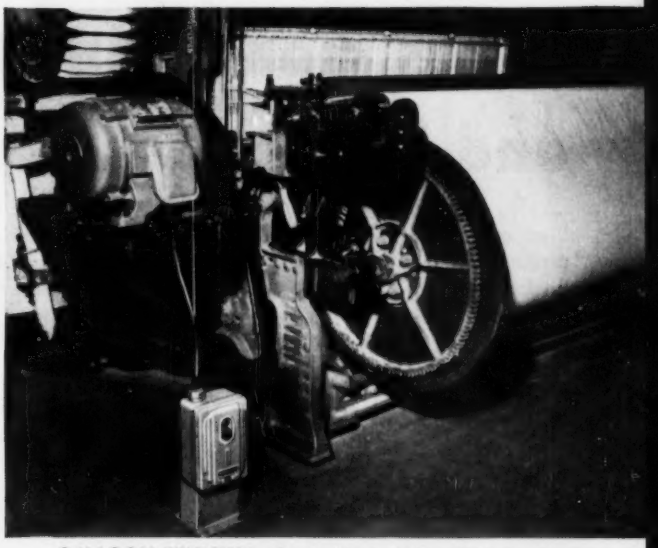
*The (SMITH-DRUM) Machine That Abolishes the Slow, Costly Post-Boarding Method*

# CUTLER-HAMMER

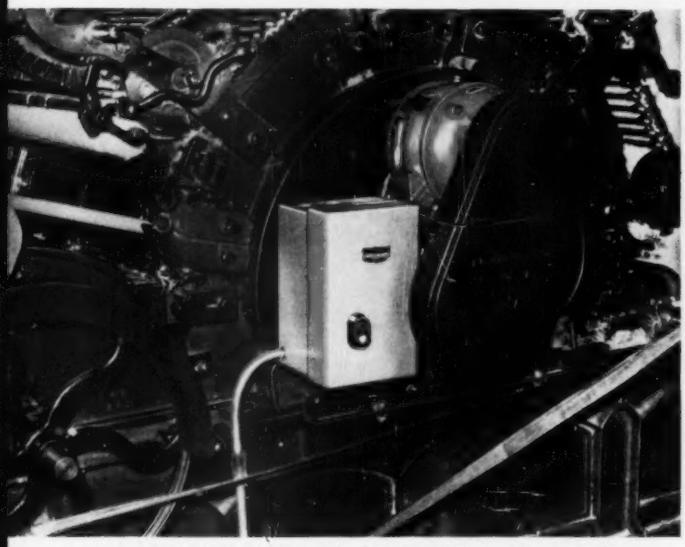
## MOTOR CONTROL FOR THE TEXTILE INDUSTRY



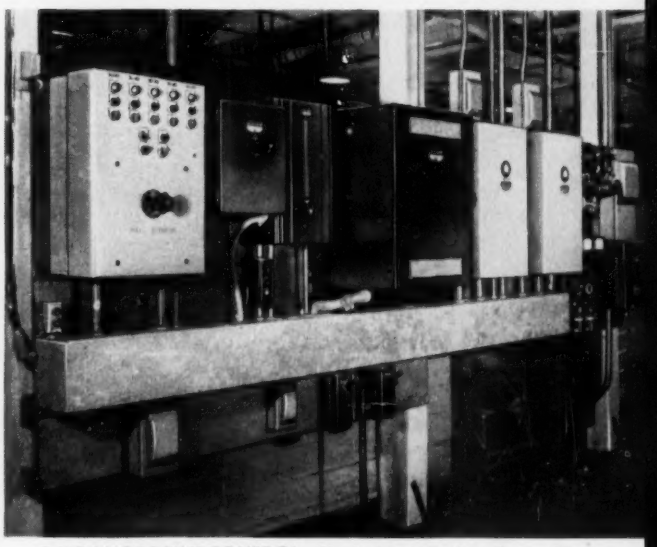

C-H SMOOTH STARTERS—Typical installation of Cutler-Hammer Smooth Starters and Shipper Rod Switches. STATESVILLE DIVISION, The Seminole Mills, Statesville, N. C.



C-H LOOM SWITCHES—Typical installation of Cutler-Hammer Loom Switches on unique C-H Welded Pedestals. Leward Cotton Mills, Inc., Worthville, N. C.



C-H CARD CONTROLLERS—Typical installation of extra-safe Cutler-Hammer Card Controllers. Charles H. Bacon Company, Lenoir City, Tenn.



C-H RANGE DRIVE CONTROL—Typical installation. Cutler-Hammer Electronic Dancer Roll Regulator and Range Drive Controller for slack drying range at Mooresville Mills, Mooresville, N. C.

## *More and more their choice*

Men who select and purchase textile mill production equipment can have but one goal in mind. They *must* buy wisely because the production of the mill is a measure of the wisdom of their choice. When it comes to motor control, they buy with extra care. For motor control is pivotal equipment, guiding and guarding motor and machine performance. More and more the choice of these men falls upon Cutler-Hammer Motor Control. For they know from experience that Cutler-Hammer dependability is no mere competitive claim. They know it is the earned advantage of the longest and most intensive specialization in motor control engineering . . . a fact that stands out clearly in a mill's production records to reflect favorably on their own ability and good judgment. They know that Cutler-Hammer can furnish any type of control needed . . . from the simplest starters to the most complex electronic equipment.

You too will find it pays to insist on Cutler-Hammer Motor Control and refuse all substitutes. An adequate network of Authorized Cutler-Hammer Distributors throughout the textile manufacturing areas insures prompt attention and supply. CUTLER-HAMMER, Inc., 1457 St. Paul Avenue, Milwaukee 1, Wisconsin.

CUTLER-HAMMER
MOTOR CONTROL
C-H

# The *Speedline* system saves money on stainless piping and increases flow and capacity

You can save money on your corrosion-resistant piping systems . . . perhaps even cut your costs in half. *Speedline* engineers have achieved these amazing results by using the new light wall stainless pipe and versatile *Speedline* Fittings. Here's the way it works:

### *If you are now using Stainless Pipe . . .*

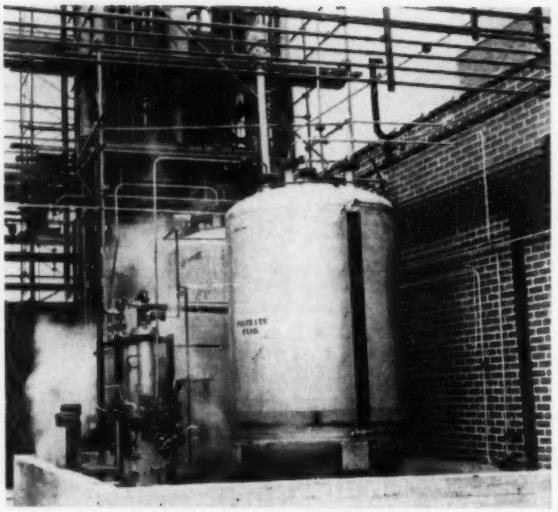
. . . chances are that it is the conventional Schedule 40. But this heavy wall is not needed in 90% of the cases. Light wall Schedule 5 pipe costs about half as much, and all sizes will easily withstand 150 p.s.i. working pressures. *Speedline* Fittings are specially designed for fast, low-cost installation of light wall stainless pipe lines. And because light wall pipe of the same size has a larger inside diameter than heavy pipe, you gain 15% to 25% greater flow and capacity!

### *If you are now using Stainless Tubing . . .*

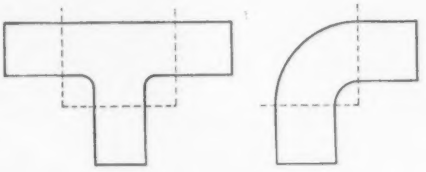
. . . the *Speedline* system offers real savings and advantages. It permits you to change to a light wall *pipe* rather than *tubing* size—at no increase in cost. And here's where you gain. Standard equipment like valves, pumps, sight gauges, etc., are made in *pipe* sizes—you hook right in without special adapters! And equally important, *piping* permits you to use the next lower dimension (for example, 1¼" pipe has essentially the same capacity as 2" O.D. tube). This means that you can use smaller valves, flanges, and other accessories—an entire installation would be considerably lower in cost.

***WRITE FOR THIS FREE BOOK***

Just write a note on your company letterhead and we will mail the *Speedline* catalog to you. It shows why you get better results at less cost with *Speedline* Fittings.



Over 800 *Speedline* flanges are used in this installation by one of the largest chemical producers. Shortly after they were installed, a mishap occurred which caused the fluid to solidify in the lines, building up tremendous pressures. When the lines were put back into operation, not a single *Speedline* flange leaked!



### *Look for the "Tangential Feature"*

These drawings show a *Speedline* Tee and 90° Elbow. The dotted lines show the termination points of conventional fittings. The additional straight section of *Speedline* Fittings permits attaching of unions or flanges without fouling, reduces the number of welds required, and eliminates troublesome curved or angle joints. The tangential feature is common to all *Speedline* Fittings such as Ells, Tees, Crosses, etc.

**Speedline distributors are located in principal cities from coast to coast**

**Speedline Corrosion-Resistant FITTINGS**

*—the newest thing in pipeline economy*

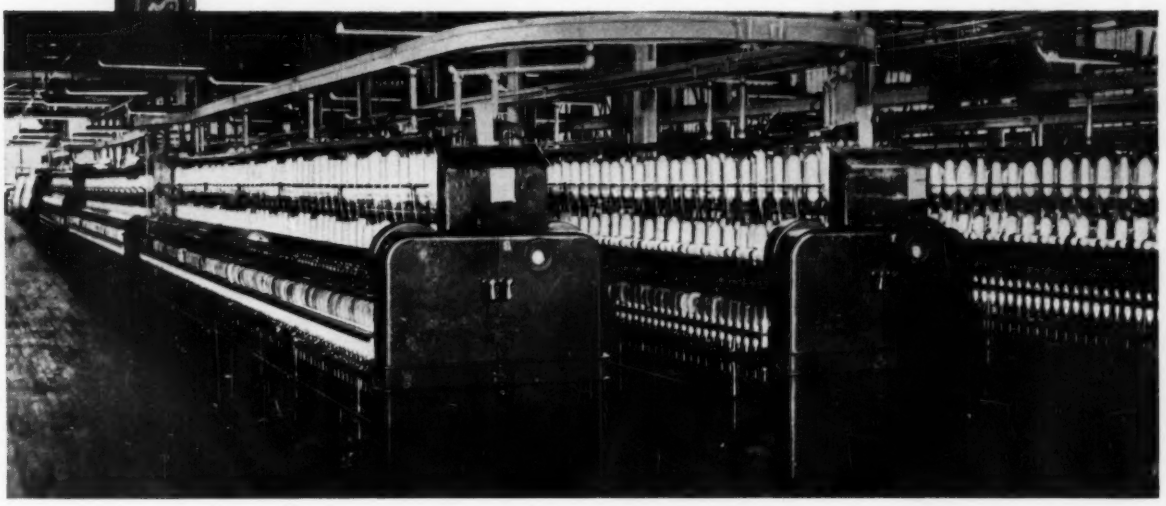
*Manufactured by* **HORACE T. POTTS CO.** • Erie Avenue & D Street • Philadelphia 34, Penna.



For more information, write direct or use Reader Service post card.

# "We CUT MAINTENANCE COSTS by 13%"

...says Norman Garlington of Brookside Mills, Knoxville, Tenn.



**To turn out 15 million yards of cotton and blended fabrics yearly, Brookside Mills keeps its 65,000 spindles and 1046 looms working smoothly with Sinclair Textile Lubricants.**

Two years ago, General Superintendent Norman Garlington called in a Sinclair Lubrication Engineer and asked him to make recommendations for better and more economical lubrication.

After a thorough study of the mill, the Sinclair Engineer set up a comprehensive and simplified lubrication procedure and recommended specially developed Sinclair Textile Lubricants.

Since the new procedure was adopted, Mr. Garlington reports that, "Sinclair Textile Lubricants have cut our maintenance costs by 13%. In addition, we have *reduced* inventory . . . *saved* storage space . . . and *cut* misapplication."

About important extra services, Mr. Garlington writes, "The Sinclair Research Laboratory has been consulted on several tough problems and results were quickly obtained."

To get in touch with a Sinclair Lubrication Engineer, call your local Sinclair Representative or write to Sinclair Refining Company, 600 Fifth Avenue, New York 20, N. Y.

## SINCLAIR TEXTILE LUBRICANTS



For more information, write direct or use Reader Service post card.

# The SMM ROLLER-BEARING SPINDLE

Reg. U. S. Patent Office

## . . . *For Higher Efficiency and Greater Economy*

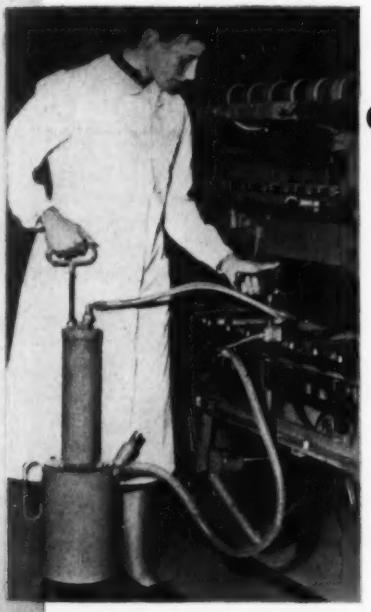
- **Flexibility without the least friction; therefore, no dirtying of oil**



**Note its important advantages!**

- **One oil filling is sufficient for**

**20,000 or more Hours**
**(5 years at 2-shift basis)**



- **Change of oil, including cleaning, done within fraction of a minute by means of this simple appliance. Removing or dismantling of spindle-bolster not necessary.**

- **No edge pressure on the rollers, roller-bearing and footstep being always perfectly aligned.**

- **Exclusive oil cushioning. Very gentle and very effective**

- **Built for any kind of bobbin**

**for any purpose**

**SPINDLES, MOTORS AND MACHINES LTD.** ***USTER, SWITZERLAND***

*NORTH AMERICAN REPRESENTATIVE*

**GUBELIN INTERNATIONAL CORPORATION • 35 West 53rd Street • NEW YORK 19, N. Y.**



For more information, write direct or use Reader Service post card.

To keep production moving, keep valve quality high

FIG. 123
**N·M·D**
(Non-Metallic-Disc)
**BRONZE VALVE**

Correctly engineered for long life in handling steam, hot water, cold water, air and gas, oil, gasoline, butane, propane.

Any plant, regardless of type or size, uses valves—bronze, iron, or steel. Industry relies on Lunkenheimer Valves that stay on the job, year-in, year-out . . . helping sustain continuous peak production. And that's why Lunkenheimer quality is so essential today.

Industry's faith in Lunkenheimer Valves is based on nearly a hundred years of experience with Lunkenheimer design, materials, and workmanship.

**BRONZE • IRON • STEEL**

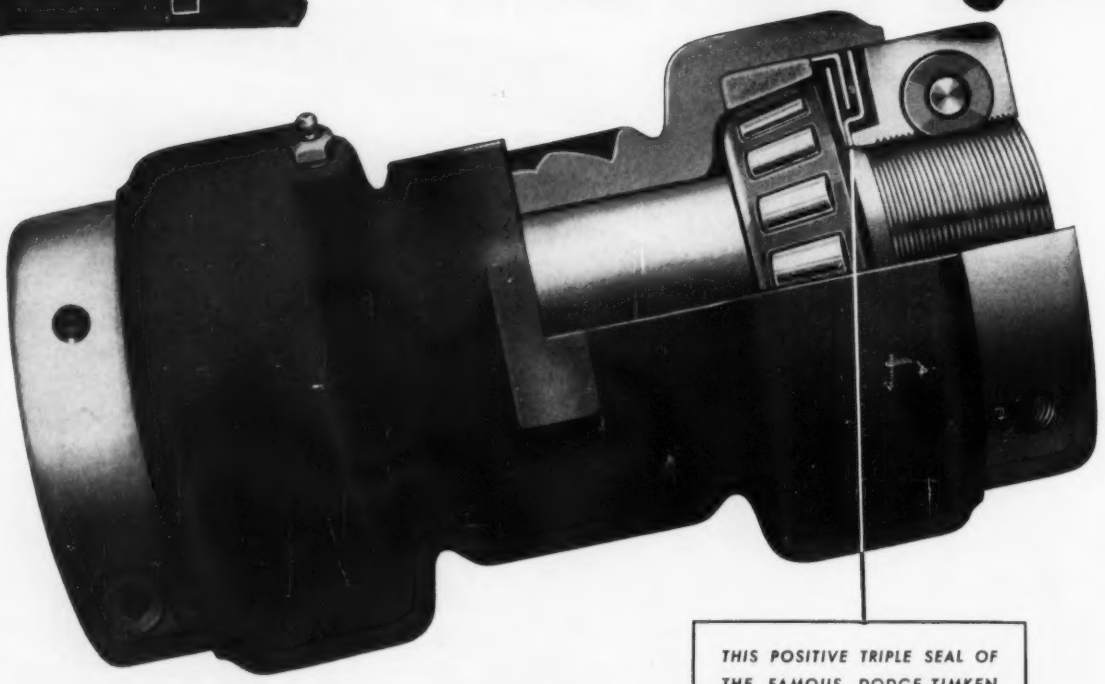
**LUNKENHEIMER**
THE ONE *Great* NAME IN VALVES

L-152-26

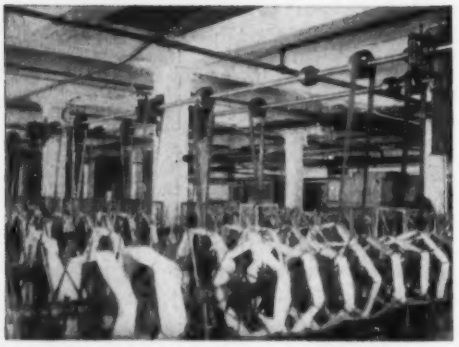


For more information, write direct or use Reader Service post card.

# Stops Oil Damage!



*THIS POSITIVE TRIPLE SEAL OF THE FAMOUS DODGE-TIMKEN TYPE C BEARING ELIMINATES OIL DRIP...HERE IS THE IDEAL BEARING FOR TEXTILE MILL USE!*



This installation of Dodge-Timken Hanger Bearings protects quality and profits. Special seals prevent oil leakage on the product, reduce "seconds." Bearings remain properly lubricated, saving labor.

IS OIL DRIP eating holes in your profits? To keep the lubricant where it belongs—*inside the bearing*—switch to Dodge-Timken. These famous bearings, noted throughout the world for quality, have proved themselves in millions of industry's toughest jobs.

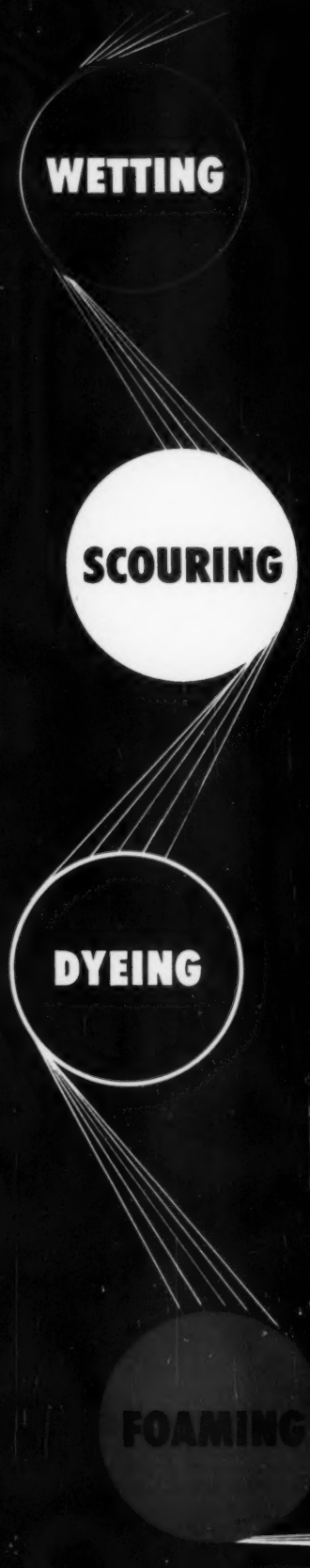
The type C Dodge-Timken Bearing is especially adapted to use in the textile field. Its indestructible steel seal positively prevents lubrication leakage—definitely cuts a mill's loss from "seconds."

Available from distributors' stocks—in shaft sizes from 1-7/16" to 3-15/16". Completely assembled, factory adjusted, pre-lubricated and ready to install on the shaft for a minimum of 30,000 hours of uninterrupted service. Call your nearest Dodge Transmissioneer. Or write us for detailed bulletin.

**DODGE MANUFACTURING CORPORATION**
**1400 Union Street • Mishawaka, Indiana**

*CALL A DODGE TRANSMISSIONEER.* He's factory-trained to help solve your power drive problems. Look for his name under "Power Transmission Equipment" in your classified telephone directory.

**DODGE**
*of Mishawaka, Ind.*




In every phase of textile processing where soap is used, for almost every type of fibre—whether in yarn or piece goods form—you can now use a far superior, more economical detergent . . .

# MAPRO D LIQUID

This excellent detergent will work more efficiently and cost less in such operations as wetting out, emulsifying, scouring, as a dyeing assistant and as a general replacement for soap.

Check the advantages listed on the right and ask for a test sample—or a mill-scale run—today, without obligation. A trial will prove the product.

**MAPRO D LIQUID *offers:***

- Faster wetting action
- Better detergency
- Improved dispersing and suspending action
- Compatibility with hard water, phosphoric and acetic acids
- Easier handling than soap—no cooking or boiling, instant foaming
- Unusually fast and thorough rinsing
- Lower initial and in-use cost

ONYX

**OIL & CHEMICAL COMPANY**

TEXTILE DIVISION

WARREN & MORRIS STS., JERSEY CITY 2, N. J.

CHICAGO · BOSTON · CHARLOTTE · ATLANTA

In Canada: ONYX Oil & Chemical Co., Ltd., Montreal, Toronto, St. Johns, Que. For Export: ONYX International, Jersey City 2, N. J.

*He's a great polo player—BUT*

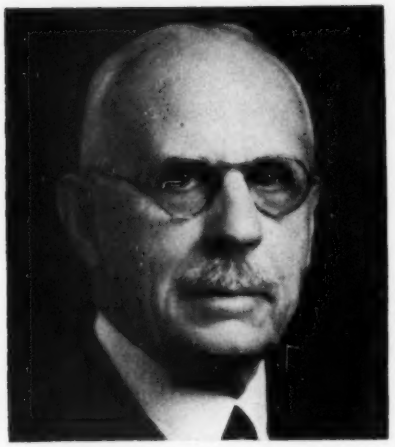
# How does he compare with Al Parsells?

Al Parsells of the Meadow Brook Club, Westbury, Long Island, rated the first star to emerge in postwar polo, is today rated among the top players in the country.

In everything we do, we make comparisons . . . In Full-Fashioned Knitting, the one standard of comparison is the 30-section "Reading" Machine with a production of 14 to 16 dozen pairs of superior quality stockings in 8 hours. Simple and flexible in operation. 51-gauge, 60-gauge.

TEXTILE MACHINE WORKS • READING, PENNA.

TEXTILE WORLD
VOL. 103 • NO. 1 • JANUARY, 1953



# *My Baby Is 65 Years Old This Month*

*TEXTILE WORLD Was Born in the Year of the Great Blizzard—1888*

By HENRY G. LORD

DURING THE FIRST WEEK in January, 1888, TEXTILE WORLD was born in a little office on the fourth floor of an old walk-up building at 82 Water Street in Boston.

The staff consisted of three people: my associate, Walter Guild, who spent most of his time selling advertising, and incidentally sold a self-calculating scale, of which he was the inventor; a young girl who was stenographer, office assistant, and errand girl; and Henry Lord, who had the varied responsibilities of editor, general manager, circulation director, and bookkeeper. This was before the era of the 40-hour week. We worked 12 hours a day, including Saturdays and holidays.

I had the idea that a trade paper, published in the form of a daily newspaper, would be enough different to attract attention and would be easily and quickly read, and it would also be comparatively inexpensive to print. So this little venture was launched with a subscription price of 50¢ a year or two years for $1.00. About 4,000 subscriptions came in voluntarily. Most of them were paid and furnished the bulk of our working capital. It was a four-page sheet, with nine columns to the page, like the daily newspapers of that period. Three columns of reading matter in the middle of the front page were flanked by three columns of advertising on each side.

Advertising was sold on the basis of $20 per year for one inch, single column. There was a discount of 10% to any one who paid a year in advance. No one did! There was also a discount of 5% for quarterly payment in advance, and many took advantage of that discount. I well remember that the first check we received in payment for advertising was from the old Kitson Machine Company. The morning of the famous blizzard of March 12, 1888, I waded to the office through the deep snow, and at about 11 o'clock in the morning the postman staggered in and deposited a few letters, one of which contained this welcome check. I can visualize it now, with the well-known signature of H. C. Perham, treasurer; these Kitson checks came regularly every three months for many years until the merger with the Lowell Machine Shop, which was already advertising.

I recall another very unique circumstance. One afternoon when I returned from luncheon, the clerical staff informed me that a very distinguished looking gentleman had called with a copy of the dummy of the proposed TEXTILE WORLD that had been sent to all potential advertisers. He had marked a space across the bottom of the front page, and wanted to know if the Lowell Machine Shop could have that position and how much it would cost. From the description of this gentleman, I realized to my overwhelming astonishment that he was General Robert Stevenson, president and treasurer for many years of the old Lowell Machine Shop and one of Boston's Brahmins. I dashed down the stairs and rushed over to his office at 28 State Street to assure him that he could have it. He asked how much it would cost; and, when I hesitantly told him it would be $540 a year, I expected that he would faint. I felt jittery myself. But he took it manfully, as a soldier should, and told me to fix it up with the bookkeeper. That advertising ran uninterruptedly, without a written contract, until that company was merged with the Saco-Pettee Company to form the present Saco-Lowell Shops.

There are other advertisers or their successors who have used TEXTILE WORLD regularly during these 65 years, but none of the individuals who gave their orders to the 22-year old publisher are now living, to my knowledge.

TEXTILE WORLD has seen many changes in its forms of make-up and even in name. When it acquired the *Textile Record* in 1905, it changed its name to *Textile World Record*, and it was then that my dear old friend Frank Nagle joined the organization. In 1915 the *Textile Manufacturers Journal* merged with it and it became *Textile World Journal* and was printed weekly. Earlier in its career, I had bought the old *Industrial Record*, which was established in 1868 and thereby acquired twenty years of additional age, which now makes 85 years of continuous publication. There are only two or three other business papers in this country that antedate it.

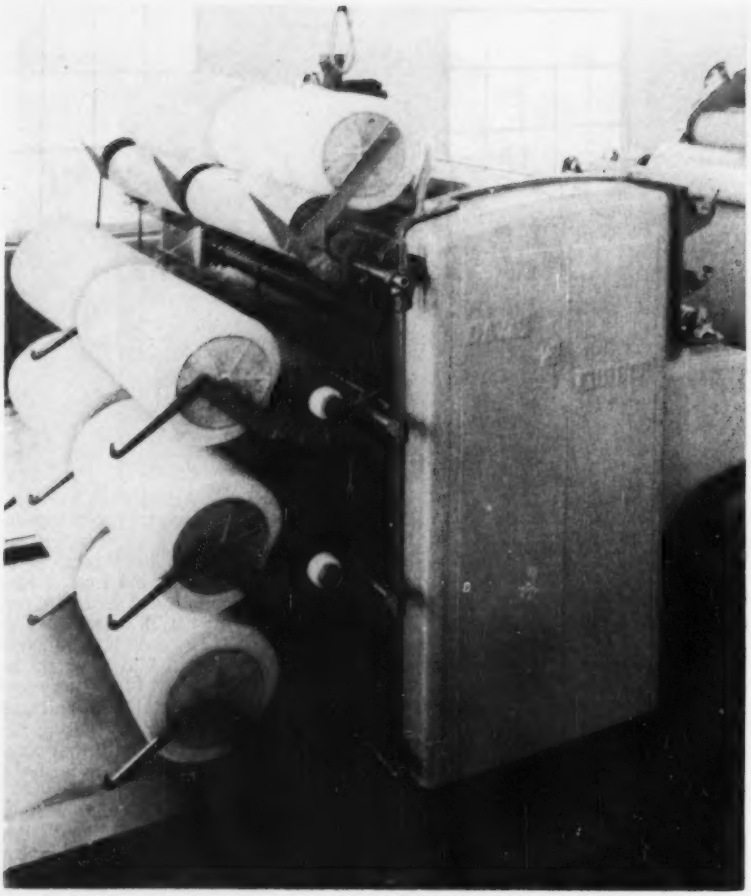
On other occasions I have written about the wonderful changes and happenings in the textile industry during my 65 years of publishing experience. I shall not be tempted to enlarge further on that topic. But as I am writing this birthday reminiscence, I wonder if any of the present readers of TEXTILE WORLD was an original subscriber in 1888. Occasionally I have heard from some of those oldtimers, and should there be one or more living, I would very much like to hear from them.

From the time of its first issue in January, 1888, until nearly ten years after its merger with McGraw-Hill in 1928, a period of 40 years, TEXTILE WORLD was under my personal direction; and, although in more recent years my position, as chairman of the Finance Committee of the McGraw-Hill Publishing Company, is concerned with all its many different magazine and book publishing activities, TEXTILE WORLD will always be "my baby."

## A SERVICE and a MAN

**For 65 years, mill men, equipment and supply manufacturers, and others associated with the textile industry have profited from the service rendered by TEXTILE WORLD and the man who founded it and who has helped guide it through every issue since then.**

**We who are now charged with the details of publishing TEXTILE WORLD are proud to salute Uncle Henry on this anniversary. To make 1953 a nostalgic year indeed, we would appreciate hearing from any present reader of TEXTILE WORLD who was a reader in 1888 or who remembers *Industrial Record* before 1888. — Editor**



EIGHT 24-END SPOOLS on this 84-in. card deliver 110 lb. per hr. Speeds and settings for the wide card are conventional, and the mill experienced no difficulty in setting the cards up.

# 84-in. WOOLEN CARDS
## Pay Off at New England Mill

**► Production of 110 lb. per hr. at 90% efficiency is one reason this woolen mill likes the new Davis & Furber wide cards. Unit costs are lower, and yarns are better.**

**By MICHAEL J. KOROSKYS**
**Assistant Professor, Wool Department, Lowell Textile Institute**

ONE 84-IN. CARD at a small New England woolen mill is taking care of four 144-spindle spinning frames in an efficient, smooth-running setup. Card production, now about twice as much as the mill formerly got from a 60-in. card, has been as high as 140 lb. per hr. on 2⅞-run roping.

Normally, the mill runs its four new wide cards on 2⅞-run roping at 110 lb. per hr. in 192 ends at 90% efficiency. One cylinder and one doffer are stripped every 24 hr. of running time; and the entire stripping time, from running out until all the ends are up and running again, is 1 hr. for two men.

### Workloads Are Better

The machine assignment for the 84-in. cards is the same as for four 60-in. cards. One man tends the four finishers, and one man takes care of the four feeds and the alleys. Since the production on the four new cards is about 440 lb. per hr., where the four older cards produced a total of 200 lb. per hr., there was a significant drop in carding costs per pound of roping.

### Lots Are Larger

The lots run on the wider cards are large enough to overcome the production loss caused by stripping between lot changes. The mill thinks that the minimum lot size should be the amount of stock that can be carded between strippings. On 2⅞-run, for instance, minimum lot size for one card is about 2,600 lb. On 5-run, where stripping needs to be done only every third day, the lot size should be three times as large, or about 7,800 lb., for most efficient operation.

### Some Changes Are Necessary

Preventive maintenance plays an important part in the operation of these wider cards. If some minor difficulty causes the card to be stopped, the resultant loss in production is tremendous. All necessary checks, adjustments, and maintenance procedures are carried out by the mill while the card is stopped for stripping or grinding.

Stripping is done with a vacuum system to avoid damage to the clothing that might result if the long rolls necessary for hand stripping should get sprung during handling.

Grinding takes a little longer than on the 60-in. cards because there is more surface to grind. Grinding presents no special problems except that greater care is exercised in handling the long grinding rolls.

Speeds can be changed while the card is running, and the results of minor changes can be detected quickly. If the fancy is causing too much fly or the card is loading up, the mill changes the fancy speed. This adjustment is a minor one because the fancy drive is independent of the stripper drives.

The mill has a dickie roll on the doffer to remove vegetable matter that gets by the Peralta rolls. Plastic tapes were tried and rejected in favor of leather tapes. Fancy covers were removed because the mill prefers to control fly with humidity.

Speeds and settings of carding parts are conventional.

1953 REVISION

TEXTILE WORLD'S

# COTTON-FIBER TABLE

## *What's Happening to* COTTON?

▸ **Cotton, more than any other fiber, is undergoing change. Few years pass without at least one variety dropping from the rank of commercial importance and one or more varieties, bred for better yield and spinning character, joining that rank.**

▸ **Not only is cotton itself being improved; but methods of marketing, selecting, and testing cotton are also in a state of change.**

**In all these activities, one end result is sought: better quality-plus-price textiles for the final consumer.**

▸ **A brief look at some of the things that are happening to cotton is given in the following pages. Some of the factors discussed are—**

- **How the use of cotton is increasing**
- **How mills select their cotton**
- **What's happening to cotton varieties**

**By P. M. THOMAS,** *Editor,* TEXTILE WORLD

TEXTILE WORLD, JANUARY, 1953 • PAGES 85-100

1953 REVISION

TEXTILE WORLD'S

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**By P. M. THOMAS,** *Editor,* TEXTILE WORLD

TEXTILE WORLD, JANUARY, 1953 • PAGES 85-100

## *What Cottons Are Used in* 15 BASIC FABRICS

- **1½- to 2-million bales of cotton go into these 15 standard fabrics**
- **Small average differences indicate that a given cotton may be used for many fabrics**
- **Mill differences make cotton for a given fabric cost more or less**

*From Marketing Research Report No. 25, issued by the U. S. Dept. of Agriculture.*

● REGARDLESS OF THE PRODUCT, all mills do not use the same qualities of cotton to make that product. Such differences as the cloth quality the mill wants, processing equipment used, how effectively the equipment is used, the manufacturing organization, and labor and cotton costs determine what cottons are used.

If a mill has particularly good machinery and operates it with skill, a lower quality of cotton may be used for a given quality of cloth.

The accompanying tables, which give data on the cotton used by mills in 15 basic fabrics, show only ranges or averages. In any group of mills making one of the fabrics, the cotton used would vary over a fairly wide range.

For example, in the table that gives cotton grades used for the 15 fabrics, flannel is listed as ranging from Low Middling to Middling. Within that range, the different grades are used as follows:

| | Percent |
|---|---|
| **Middling** | 24.2 |
| **Strict Low Middling** | 54.2 |
| **Low Middling** | 6.5 |
| **Middling Spotted** | 6.7 |
| **Strict Low Middling Spotted** | 8.4 |

Within the range of staple length given in the table as 15/16 to 1 1/16 in., the different lengths are used as follows:

| Inches | Percent |
|---|---|
| 15/16 | 8.7 |
| 31/32 | 10.3 |
| 1 | 28.8 |
| 1 1/32 | 29.9 |
| 1 1/16 | 22.3 |

### Description of Cotton Used

| Fabric | Range in grade | Average grade index all mills | Range of staple length (in.) | Average staple length all mills (32ds in.) |
|---|---|---|---|---|
| Flannel | LM to M | 93.7 | 15/16 to 1 1/16 | 32.3 |
| Gingham, chambray, and seersucker | LM to SM | 97.0 | 31/32 to 1 1/32 | 33.0 |
| Terry toweling | LM to M | 90.4 | 31/32 to 1 1/16 | 32.5 |
| Huck toweling | SGO to SLM | 84.0 | 31/32 to 1 1/16 | 32.3 |
| Corduroy | SLM to SM | 96.5 | 1 to 1 3/32 | 33.7 |
| Bedspreads, jacquard | LM to M | 94.0 | 15/16 to 1 1/16 | 32.1 |
| Bedspreads, nonjacquard | LM to M | 93.1 | 31/32 to 1 1/32 | 33.2 |
| Drapery | LM to M | 92.5 | 7/8 to 1 1/32 | 31.3 |
| Carded uniform twill | SLM to M | 96.6 | 1 to 1 1/16 | 33.1 |
| Combed uniform twill | SLM to SM | 97.8 | 1 1/32 to 1 1/8 | 34.4 |
| Other carded twills | LM to M | 97.1 | 15/16 to 1 1/32 | 32.3 |
| Carded army sateen | LM to SM | 95.4 | 7/8 to 1 1/32 | 31.9 |
| Tire cord | LM to SM | 96.6 | 1 to 1 1/32 | 33.5 |

### Manufacturing Performance of Cotton Used

| Fabric | Picker and card waste (percent) | Neps per 100 sq. in. of card web | 22s yarn strength (lb.) | 22s yarn appearance |
|---|---|---|---|---|
| Flannel | 10.1 | 30 | 108 | B |
| Gingham, chambray, and seersucker | 9.4 | 29 | 106 | B |
| Terry toweling | 11.1 | 40 | 101 | C+ |
| Huck toweling | 12.4 | 59 | 98 | C |
| Corduroy | 8.6 | 27 | 106 | B+ |
| Bedspreads, jacquard | 9.8 | 30 | 102 | B |
| Bedspreads, nonjacquard | 10.1 | 33 | 113 | B |
| Drapery | 10.9 | 37 | 92 | C+ |
| Carded uniform twill | 8.8 | 25 | 105 | B |
| Combed uniform twill | 11.5 | 16 | — | — |
| Other carded twills | 8.9 | 28 | 106 | B |
| Army sateen | 9.2 | 29 | 103 | B |
| Tire cord | 7.9 | 34 | 117 | C+ |

### Staple Length of Cotton Used

| Fabric | Staple length |
|---|---|
| Drapery | 31/32 in. |
| Flannel, terry and huck toweling, jacquard bedspreads, army sateen, carded twills | 1 in. |
| Gingham, chambray, seersucker, nonjacquard bedspreads, carded uniform twill, tire cord | 1 1/32 in. |
| Corduroy, combed uniform twill | 1 1/16 in. |

### Fiber Properties of Cotton Used

| Fabric | Fibrograph upper-half mean (in.) | Uniformity ratio (index) | Tensile strength (1,000 lb. per sq. in.) | Fineness (weight per in.) (micrograms) | Maturity (percent) |
|---|---|---|---|---|---|
| Flannel | 1.03 | 79 | 78 | 4.2 | 78 |
| Gingham, chambray, and seersucker | 1.06 | 79 | 77 | 4.4 | 83 |
| Terry toweling | 1.06 | 78 | 75 | 4.1 | 81 |
| Huck toweling | 1.05 | 77 | 73 | 4.0 | 79 |
| Corduroy | 1.08 | 79 | 78 | 4.4 | 85 |
| Bedspreads, jacquard | 1.03 | 79 | 76 | 4.3 | 83 |
| Bedspreads, nonjacquard | 1.09 | 79 | 81 | 4.0 | 82 |
| Drapery | .98 | 79 | 74 | 4.5 | 82 |
| Carded uniform twill | 1.07 | 79 | 78 | 4.3 | 84 |
| Combed uniform twill | 1.08 | 79 | 81 | 4.4 | 82 |
| Other carded twills | 1.02 | 78 | 78 | 4.3 | 82 |
| Carded army sateen | 1.02 | 79 | 78 | 4.3 | 83 |
| Tire cord | 1.05 | 78 | 79 | 4.3 | 80 |

### Bales of Cotton Used (Thousands)

| Fabric | 1939 | 1947 | 1948 | 1949 | 1950 |
|---|---|---|---|---|---|
| Flannel | 279 | 288 | 288 | 193 | 229 |
| Gingham | 18 | 26 | 33 | 25 | 35 |
| Chambray | 59 | 84 | 101 | 67 | 69 |
| Seersucker | 3 | 6 | 7 | 5 | 11 |
| Terry toweling | 188 | 224 | 206 | 177 | 231 |
| Huck toweling | 36 | 27 | 20 | 26 | 39 |
| Corduroy | 58 | 100 | 109 | 145 | 184 |
| Woven bedspread | 53 | 77 | 88 | 70 | 66 |
| Drapery, upholstery, and tapestry | 163 | 248 | 249 | 252 | 316 |
| Carded uniform twill | NA | 21 | NA | 26 | 42 |
| Combed uniform twill | | | Not available | | |
| Other carded twills | NA | 222 | 260 | 252 | 319 |
| Army sateen | | | Not available | | |
| Tire cord | 585 | 686 | 535 | 275 | 397 |
| Total (exclusive of some military fabrics) | 1,442 | 2,009 | 1,896 | 1,513 | 1,938 |

## *How You Can Use the New* COTTON-FIBER TABLE

- **Data show how different cotton varieties compare**
- **New tests and new ratings have come along**
- **How to analyze the table for effect of variables such as —**
  - **Area of growth**
  - **Season of growth**

● THE COTTON-FIBER TABLE of 1948 listed test data on varieties of cotton for the crop years 1946 and 1947. The reason 1946 was selected as a starting point was that the Department of Agriculture's fiber-testing program was given a new direction that year.

The testing program had been under way for many years, with samples for testing being selected much at random. Beginning with the 1946 crop, samples have been obtained from cotton-improvement groups that grow certain varieties of cotton in certain areas.

This method of selecting test samples removes some of the variables unavoidable in hit-or-miss sample selection.

The cotton-fiber table presented here is both a revision and a continuation of the 1948 table. It is a revision in the sense that it brings up to date the varieties now important, adds new tests that were not being run in 1946 and 1947, and gives the new ratings for evaluating properties. It is a continuation of the 1948 table in the sense that the test data given start with the 1948 crop and continue through the 1951 crop.

Since the two tables combined give test data for the crop years 1946 through 1951, many readers may find it worth while to keep both tables on hand.

### Range of Test Results Given

The purpose of the table is to give a quick picture of the leading varieties of cotton. Only a range of values is given for each fiber-property and manufacturing-performance test, the range in each case being the high and low test result on a given variety that year.

For example, the range in grade given for Deltapine grown in the Southeast region in 1948 is SLM+ to SM and the staple-length range is 31/32 to 1 1/32. This tabulation means that SLM+ was the lowest grade of Southeastern Deltapine tested in 1948 and SM was the highest. Likewise, the shortest staple length was 31/32 in. and the longest was 1 1/32 in.

A mill might reasonably expect its cotton to fall within the ranges given. By far the major portion will, but some of it won't. An absolute range could not be obtained without testing every bale grown.

### Effect of Area

The area of growth is one of the most important factors outside the cotton itself that affects the quality of cotton. The influence of area can be seen in the table for all the varieties grown in more than one area.

·For example, Deltapine grown in the Southeast is a more uniform cotton than Deltapine grown in the Mid-South.

Take the staple-length range for the four years, for example. It was:

| | Southeast | Mid-South |
|---|---|---|
| 1948 | 31/32 to 1 1/32 | 1 1/32 to 1 3/32 |
| 1949 | — | 1 1/32 to 1 3/32 |
| 1950 | 1 1/32 to 1 1/16 | 1 to 1 3/32 |
| 1951 | 1 1/32 to 1 1/16 | 1 to 1 1/32 |

From low to high, the range covered, in 32nd in.:

Southeast: 3, —, 2, and 2 (average 2.3)
Mid-South: 4, 3, 4, and 4 (average 3.7)

Or take fiber maturity. The range was:

| | Southeast | Mid-South |
|---|---|---|
| 1948 | 73 to 82 | 69 to 86 |
| 1949 | — | 76 to 93 |
| 1950 | 78 to 87 | 82 to 88 |
| 1951 | 75 to 87 | 72 to 90 |

From low to high, the range covered, in percent of mature fibers:

Southeast: 9, —, 9, 12 (average 10)
Mid-South: 17, 17, 36, 18 (average 22)

Similar comparisons may be made for all fiber-property and manufacturing-performance characteristics of each variety grown in different areas.

### Effect of Season

The effect of season on cotton quality may be analyzed from the test data given in the table.

Again take Deltapine grown in the Southeast as an example.

In 1948, the longest-staple cotton tested was 1 1/32 in. In both 1950 and 1951, that length was the shortest-staple cotton tested.

Also in 1948, staple length covered a range of 31/32 to 1 1/32, or 3/32 in. In both 1950 and 1951, the range was from 1 1/32 to 1 1/16, or 2/32 in.

So it is clear from the test results that 1948 was a worse cotton year than 1950 and 1951. Staple length was shorter and varied more.

The 1948 cotton was more immature than cotton grown the other two years; but of the three years, the 1950 cotton had the best maturity. The midway point between the low and high cottons was a maturity percentage of:

| | Percent |
|---|---|
| 1948 | 77.5 |
| 1949 | — |
| 1950 | 82.5 |
| 1951 | 81.0 |

### If You Have a Testing Program—

Mills that have a cotton-fiber testing program under way can use this cotton-fiber table to see how its cotton fits into the over-all cotton-quality picture.

If results of mill-laboratory tests vary considerably more than the ranges given here, someone should investigate cotton-buying practices.

If manufacturing-performance tests do not measure up to the data given here, an investigation of the manufacturing setup and practices may pay off handsomely.

If the cotton, bought by variety or area of growth, is not good enough or is too good for the quality of fabrics you make, this table can serve as a guide in locating and buying a more suitable cotton.

### If You Do Not Test Your Cotton—

Mills that have not gone into a fiber-testing program should find the table a valuable reference chart.

By analyzing it in some way similar to the example analyses given, you will learn quite a lot about why your cotton acts as it does.

In the absence of a testing program for selecting cotton to buy and to lay down for an opener-room mix, the data given can serve as a guide to better procurement and use of fiber for the yarn or cloth you make.

## USE OF COTTON *Is Steadily Increasing*

- **U. S. consumption has nearly doubled in 30 yr.**
- **Cotton consumed per person has remained steadier than any other fiber**
- **Increase will continue unless rayon is improved or a more cotton-like synthetic is produced.**

Figures taken from, or based on figures that appeared in, *Statistical Abstract of the United States* 1951.

● THE SPECTACULAR GROWTH in the use of synthetic fibers has caused many people to lose sight of the growth in the use of cotton. Comparisons are usually given in percentages of total fiber consumption. Such figures, while valid, highlight the increase in the use of synthetics because they start from the zero point.

The objection to the use of percentage-of-consumption figures is that they make it appear that the fibers that do not start at the zero point are losing ground.

For example, in 1930 cotton represented 85% of the total fiber used in the United States. In 1950, that figure was down to 68%. However, total consumption of all fiber increased so much between 1930 and 1950 that the consumption of cotton increased from 2.6-billion pounds in 1930 to 4.7-billion in 1950—an increase of better than 80%.

For the three 10-yr. periods from 1920 to 1950, cotton consumption averaged:

| | |
|---|---|
| 1921-30 | 3.1 (billion lb.) |
| 1931-40 | 3.1 |
| 1941-50 | 4.8 |

The amount of cotton fiber used per person has remained remarkably constant. In 1939, the per-capita consumption was 28 lb. In 1950, it was 31 lb.

The average amount used per person, boosted somewhat by the heavy use in the war years 1941, 1942, and 1943, amounted to 33.16 lb. for the 12-yr. period 1939-50.

### Where Cotton Is Used

Having a wide range of synthetic fibers available is forcing mills to select fibers better adapted for end products. Just as, years ago, wool proved best for such products as outerwear and carpets and cotton for shirts and towels, certain synthetic fibers are now proving best for certain products: for example, nylon for hosiery, rayon for tire cord, etc.

However, in many cases there are uses for other fibers in fields dominated by one fiber: for example, cotton has always been used to some extent in men's summer suits, although wool was the dominating fiber.

Cotton has gained significantly in such uses as duck, print cloth, colored-yarn fabrics, wide woven goods, and men's sports socks. It has lost ground in such uses as tire cord, women's seamless hose, and men's half-hose. In many other uses it has held its own in fiber consumption but has not gained as rayon or nylon has.

Figures for some of the more important uses of cotton are:

Woven goods over 12 in. wide

| | |
|---|---|
| 1946 | 9.1 (billion linear yd.) |
| 1947 | 9.8 |
| 1948 | 9.6 |
| 1949 | 8.4 |
| 1950 | 9.8 |

Tire cord and chafer fabrics

| | |
|---|---|
| 1946 | 311 (million lb.) |
| 1947 | 350 |
| 1948 | 285 |
| 1949 | 156 |
| 1950 | 221 |

Women's full-fashioned hosiery

| | |
|---|---|
| 1946 | 347 (thousand doz. pr.) |
| 1947 | 300 |
| 1948 | 143 |
| 1949 | 134 |
| 1950 | 196 |

Men's sports socks

| | |
|---|---|
| 1946 | 12 (million doz. pr.) |
| 1947 | 11 |
| 1948 | 14 |
| 1949 | 16 |
| 1950 | 20 |

### The Tire-Cord Story

Take tire cord and chafer fabrics as an example of a use where cotton has lost ground. Until 1937, all tire cord was made of cotton. In 1943, rayon came into the picture in a big way and in 1949 passed cotton.

But cotton is still an important tire-cord and chafer-fabric fiber. Figures for the five years 1946-50 show an average annual use of 264-million lb. of cotton against 250-million lb. of rayon and nylon. The yearly use was:

| Year | Cotton | Rayon and nylon (million lb.) |
|---|---|---|
| 1946 | 311.1 | 213.0 |
| 1947 | 350.6 | 214.5 |
| 1948 | 284.9 | 251.1 |
| 1949 | 155.9 | 279.4 |
| 1950 | 221.4 | 296.0 |

Several factors contribute to the changing picture of fiber use in tire cord:

1. General business activity
2. Consumer income
3. Population increase
4. Increase of automobiles
5. Price of fibers and tires
6. Availability of high-tenacity rayon
7. Sales-promotion campaigns

Except for special tire uses, either cotton or rayon cord is satisfactory. Either will outlast the rubber. So price is a determining factor.

The increase in the cost of cotton from 10.81¢ per lb. (Middling 1 1/16 in.) in 1939 to 40.06¢ in 1950 contributed to cotton's loss in this field. High-tenacity filament rayon (1150 den.) increased only from 45¢ per lb. to 60¢ per lb. during the same period.

### What About the Future?

The quality-plus-price factor determines what fiber will be used for any given product. It is likely that for many years to come the price advantage will favor rayon over cotton. So cotton's advantage lies in its fitness for many textile uses for which rayon doesn't measure up.

As matters now stand, the use of cotton will continue to increase as population increases and consumer spending increases or remains fairly level. The only thing within reason that could upset that trend would be that rayon is improved or a new and more cotton-like synthetic fiber is produced.

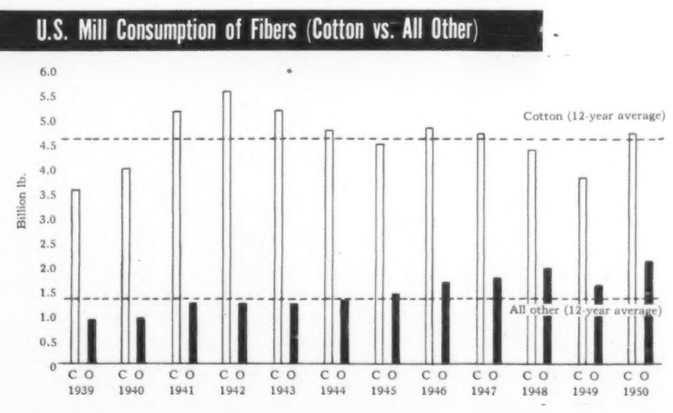
### U.S. Cotton Consumption

| | Million lb. |
|---|---|
| 1930 | 2,610.9 |
| 1935 | 2,754.7 |
| 1939 | 3,629.7 |
| 1940 | 3,953.6 |
| 1941 | 5,187.3 |
| 1942 | 5,636.7 |
| 1943 | 5,269.0 |
| 1944 | 4,792.4 |
| 1945 | 4,511.3 |
| 1946 | 4,803.3 |
| 1947 | 4,668.1 |
| 1948 | 4,461.2 |
| 1949 | 3,838.2 |
| 1950 | 4,719.8 |

### U.S. Per-Capita Cotton Consumption

| | Lb. per person |
|---|---|
| 1939 | 28 |
| 1940 | 30 |
| 1941 | 39 |
| 1942 | 42 |
| 1943 | 39 |
| 1944 | 35 |
| 1945 | 32 |
| 1946 | 34 |
| 1947 | 32 |
| 1948 | 30 |
| 1949 | 26 |
| 1950 | 31 |

### U.S. Mill Consumption of Fibers (Cotton vs. All Other)




## *How Mills* SELECT *Their Cotton*

- **Area of growth is the most important factor in selecting cotton**
- **Laboratory tests show greatest increase in use**
- **Use of private types is falling off but may increase**

From a report by the U. S. Dept. of Agriculture.

● THE TREND IN MILL SELECTION of cotton is toward wider use of fiber tests, buying by area of growth, and buying by variety. One or more of these methods of selecting cotton are used in conjunction with standard descriptions of grade and staple length.

A comparison of mill practices in buying cotton in 1944-45 and 1950-51 shows that—

—Mills are getting away from

1. Standard descriptions of grade
2. Government classification of staple length
3. The use of private types for staple length and character

—And are depending more on

1. Trade classification of staple length
2. The use of private types for grade

The accompanying table shows how widely the various methods of selecting cotton were used by the mills surveyed.

### Varieties and Area of Growth

Buying by variety increased from 12% to 15% between 1944 and 1950. But buying by area of growth increased from 34% to 69%.

In effect, buying by variety and buying by area of growth amount to the same thing. Most cotton-growing areas are so widely standardized in one variety that practically no other variety is grown.

For example, if a mill bought California cotton in 1950, 1951, or this year, it was Acala 4-42. No other variety is grown in California.

If the cotton were grown in Virginia, North Carolina, or South Carolina, it's almost certain to be Coker variety. Only one bale in every 300 in Virginia and less than two bales in every 100 in the Carolinas were varieties other than Coker.

### Fiber Tests

In 1944 the author spent a week in the U. S. Dept. of Agriculture laboratory at Clemson, S. C., to observe the relatively new cotton-fiber tests. At that time only a few mills had shown an interest in fiber testing, and only a handful had started any sort of testing program.

Now, a great many mills have programs under way, and their value as a factor in selecting cotton and laying down opening-room mixes is well recognized.

So important has this method of cotton selection become that cotton merchants are now foresecing the necessity of setting up their own laboratories or engaging the services of commercial laboratories.

As can be seen in the table, fiber strength and fineness are the characteristics that mills pay most attention to in picking their cotton. Among the mills surveyed by the U. S. Dept. of Agriculture in 1944, laboratory strength tests were used in selecting only 16% of the cotton bought. In 1950, the amount had increased to 60%. Fineness rose from 10% to 56%.

The development of fast, easy-to-use testing machines made mill use of the tests possible. As better machines are developed and the practical value of a testing program is more widely appreciated, cotton selection on the basis of laboratory tests will increase.

### Private Types

Mills apparently are not very well satisfied with either the government or the trade classification of grade. Dependence on them dropped from 79% to 72% from 1944 to 1950. Use of private types set by mills for their own use in selecting cotton by grade increased from 21% to 28%. Use of private types for staple length dropped from 21% to 12% and for cotton character from 21% to 8%.

### How Mills Determine Quality

| | 1944-45 Percent | 1950-51 Percent |
|---|---|---|
| 1. STANDARD DESCRIPTION | | |
| Grade | | |
| Trade class | 72 | 69 |
| Government class | 7 | 3 |
| Total | 79 | 72 |
| Staple length | | |
| Trade class | 72 | 85 |
| Government class | 7 | 3 |
| Total | 79 | 88 |
| 2. PRIVATE TYPE | | |
| Grade | 21 | 28 |
| Staple | 21 | 12 |
| Character | 21 | 8 |
| 3. LABORATORY TESTS | | |
| Foreign material (Shirley analyzer) | | |
| Random sample basis | — | 16 |
| Composite sample basis | — | 9 |
| All bales tested | — | — |
| Total | | 25 |
| Fiber length | | |
| Random sample basis | — | 24 |
| Composite sample basis | — | 12 |
| All bales tested | — | — |
| Total | | 36 |
| Fiber strength | | |
| Random sample basis | — | 41 |
| Composite sample basis | — | 12 |
| All bales tested | — | 7 |
| Total | | 60 |
| Fiber fineness | | |
| Random sample basis | — | 32 |
| Composite sample basis | — | 9 |
| All bales tested | — | 15 |
| Total | | 56 |
| Fiber maturity | | |
| Random sample basis | — | 2 |
| Composite sample basis | — | 9 |
| All bales tested | — | 3 |
| Total | | 14 |
| 4. BOUGHT ON VARIETY | 12 | 15 |
| 5. BOUGHT ON SPECIFIC AREA OF GROWTH | 34 | 69 |

## *What's Happening to* Cotton VARIETIES

Since 1948—

- **California has gone 100% to a single variety**
- **One of the leading varieties has disappeared**
- **Three new Upland and one American Egyptian variety have become important**

Figures taken from or based on U. S. Dept. of Agriculture *Cotton Variety Report*—1950 *and* 1951 and U. S. Dept. of Commerce *Cotton Production in the United States—Crop of* 1951.

● IN OCTOBER, 1948, we published the first TEXTILE WORLD'S Cotton-Fiber Table." On the reverse side of these pages we present a revised table to bring the cotton-variety picture up to date.

Several important changes in cotton varieties have taken place since 1948.

*Acala* 4-42, developed from Acala 1517, became commercially important that year. It has been the only cotton planted in California since 1949. In 1951, production was 1,767,743 bales—better than 11% of the total U. S. cotton crop.

*Acala P* 18 *C*, one of the eight important varieties in 1948, grown in Arizona, has practically disappeared. In 1950, it represented 39% of the Arizona cotton acreage, but in 1951 it dropped to 3%.

Four new varieties have reached the rank of commercial importance:

—*Macha*, grown only in the Texas Panhandle and northeastern Oklahoma, reached a production of about 286,000 bales in Texas in 1950. In 1951, about 650,000 bales of this variety were produced in Texas and about 8,000 bales in Oklahoma.

—*Empire*, grown in northern Alabama, northern Arkansas, Georgia, and Tennessee, reached better than 450,000 bales in 1951. In these four states, the percentages of the total cotton acreage planted to Empire cotton in 1950 and 1951 were:

| State | 1950 | 1951 |
|---|---|---|
| | Percent | |
| Alabama | 7.0 | 9.3 |
| Arkansas | 6.2 | 6.6 |
| Georgia | 16.8 | 20.2 |
| Tennessee | 19.9 | 23.5 |

—*Meirilla Valley* (formerly Mesa Acala) is grown in southern New Mexico and western Texas along the Rio Grande river.

—*Pima* 32, grown in southern New Mexico, western Texas, and Arizona, has become the standard American Egyptian variety.

### 11 Varieties — 80% of Crop

The 11 varieties listed in the table represent more than 80% of the U. S. cotton grown. The relative importance of most of them can be seen from the following table of comparative percentages of the total acreage planted to them in 1950 and 1951.

| Variety | 1950 | 1951 |
|---|---|---|
| | Percent of acreage | |
| Deltapine | 28.0 | 25.8 |
| Coker | 16.1 | 13.5 |
| Rowden | 10.1 | 9.7 |
| Acala | 5.4 | 7.9 |
| Macha | 3.7 | 7.3 |
| Stoneville | 7.1 | 4.8 |
| Empire | 3.4 | 3.5 |
| Hibred | 3.9 | 3.3 |

As indicated by this table, more Deltapine cotton is planted than any other two varieties combined. The three varieties Deltapine, Coker, and Rowden account for half or more of the cotton acreage planted.

### Where the Varieties Are Grown

Since 15% of the cotton bought by U. S. mills is bought by variety and 69% is bought by area of growth, mill men should know where certain varieties are grown.

In the important cotton-producing states, the predominant varieties and the percent of the acreage planted to them in 1951 were:

| | | Percent |
|---|---|---|
| Alabama | Coker | 46 |
| | Deltapine | 27 |
| Arizona | Acala | 96 |
| Arkansas | Deltapine | 62 |
| | Stoneville | 14 |
| California | Acala | 100 |
| Georgia | Coker | 60 |
| | Empire | 20 |
| Louisiana | Deltapine | 91 |
| Mississippi | Deltapine | 77 |
| North Carolina | Coker | 98 |
| Oklahoma | Northern Star | 18.3 |
| South Carolina | Coker | 98 |
| Tennessee | Deltapine | 60 |
| | Empire | 23 |
| Texas | Rowden | 20 |
| | Deltapine | 12 |

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# TEXTILE WORLD'S COTTON-FIBER TABLE

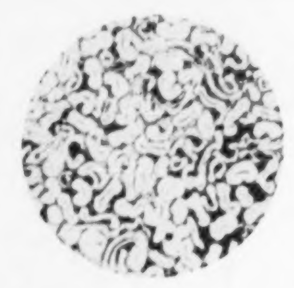
## 1953 REVISION

*Compiled by* P. M. THOMAS, *Editor*, and THOMAS B. WINSTON, *Assistant Editor*

*Photomicrographs through the courtesy of the Institute of Textile Technology, Charlottesville, Va. Prepared by T. L. W. Bailey, Jr., and R. B. Sanford, Jr. Samples of the varieties were furnished by the Bureau of Plant Industries, U. S. Dept. of Agriculture, and the Delta Branch Experiment Station, Stoneville, Miss.*

*Fiber-property and manufacturing data were taken from studies made by the Cotton Branch, U. S. Dept. of Agriculture.*

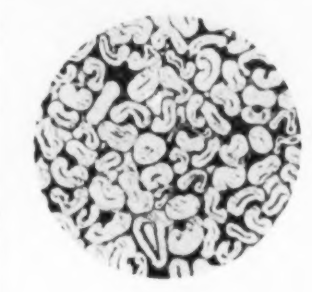
Coker 100 Wilt


Empire and Empire Wilt (1948) (1949, 1950, 1951)

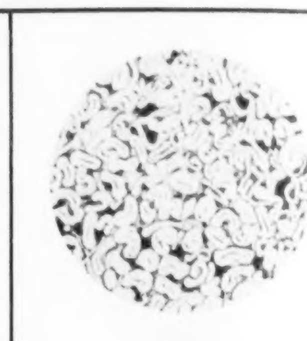
Deltapine 14 and Deltapine 15 (1948 and 1949) (1950 and 1951)

Stoneville 2B

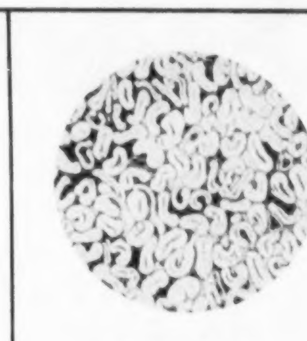
Hibred

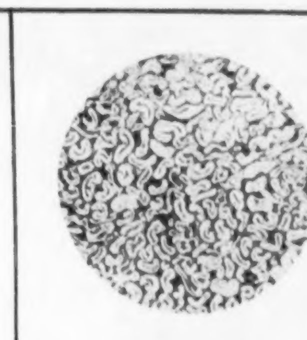

Rowden

Mesilla Valley (Mesa Acala)


Macha

Acala 1517


Acala 4-42


Pima 32

| Property | Season | Coker 100 Wilt: Southeast | Coker 100 Wilt: Mid-South | Empire: Southeast | Empire: Mid-South | Deltapine: Southeast | Deltapine: Mid-South | Deltapine: Southwest | Deltapine: Far West | Stoneville 2B: Southeast | Stoneville 2B: Mid-South | Stoneville 2B: Southwest | Stoneville 2B: Far West | Hibred: Mid-South | Hibred: Southwest | Rowden: Mid-South | Rowden: Southwest | Mesilla Valley: Southwest | Macha: Southwest | Acala 1517: Southwest | Acala 1517: Far West | Acala 4-42: Far West | Pima 32: Southwest | Pima 32: Far West |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Fiber Properties** | | | | | | | | | | | | | | | | | | | | | | |
| Grade | 1948 | LM to SM | SLM to M | M | — | SLM+ to SM | SGO to SM | LM to SM | — | M | SGO to SM | M to SM | — | M | SLM to SMltsp | Msp to SM | M to GM | SMEW | SLM to SMltsp | SMEW | MEW to SMEW | SLMEW to SMEW | — | — |
| | 1949 | LM to SMltsp | SLM to SM | SLM to M | SLM to M | — | LM to M | SLM to M | — | SLM+ to M | SLM to SM | SLM to M+ | — | M to M+ | LM to SMltsp | Mltsp to M+ | LM to SM | M to SMEW | LM+ to Msp | M to SMEW | SLMEW+toSMEW | SLMG to SMEW | — | — |
| | 1950 | LM to SM | LM+ to M+ | SLM to M | SLM to M | SLM to M+ | LMsp to SM | SLM+toSMltsp | MEW | SLM to M | LMsp to M | M+ to SM | — | — | Mltsp to SMltsp | SLM to M | LM+ to SM | MEW to SMEW | SLM to Msp | SLMEW to SMEW | SLM to SMEW | SLMEW to SMEW | 1½ to 2½ | — |
| | 1951 | LM to SM | LM+ to M+ | SLM+ to M | LMsp to M | SLM to M+ | SGO to SM | SLMsp to SM | MEW to SMEW | SLM to M+ | LMsp to SM | — | LMEW | — | SLM+ to GMltsp | SLM to M+ | LM to SM | M to SMEW | SLMsp to SMltsp | SLMEW to SMEW | SLM to SMEW | LMEW to SMEW | 1 | 1 to 3 |
| Staple Length (in.) | 1948 | 1 to 1 1/32 | 1 1/16 to 1 3/32 | 1 1/32 | — | 31/32 to 1 1/32 | 1 to 1 3/32 | 1 1/16 to 1 1/8 | — | 1 1/32 | 1 to 1 1/8 | 1 1/32 to 1 1/16 | — | 29/32 | 13/16 to 7/8 | 1 1/32 | 31/32 to 1 | 1 7/32 to 1 1/4 | 7/8 to 15/16 | 1 1/8 | 1 1/16 to 1 3/32 | 1 1/16 to 1 3/32 | — | — |
| | 1949 | 1 to 1 1/16 | 1 1/16 to 1 3/32 | 1 1/32 to 1 1/16 | 1 1/16 | — | 1 1/32 to 1 3/32 | 31/32 to 1 3/32 | — | 1 1/16 | 1 1/32 to 1 3/32 | 1 to 1 1/16 | — | 29/32 | 13/16 to 29/32 | 15/16 to 1 1/32 | 15/16 to 1 1/32 | 1 3/16 to 1 7/32 | 29/32 | 1 1/16 to 1 1/8 | 1 1/16 to 1 1/8 | 1 1/32 to 1 1/16 | — | — |
| | 1950 | 1 to 1 3/32 | 1 3/32 to 1 1/8 | 1 1/32 to 1 1/16 | 1 1/32 to 1 1/16 | 1 1/32 to 1 1/16 | 1 to 1 3/32 | 1 1/16 to 1 3/32 | 31/32 to 1 1/16 | 1 1/32 to 1 1/16 | 1 to 1 3/32 | 1 1/32 to 1 1/16 | — | — | 7/8 | 1 1/32 | 15/16 to 1 1/32 | 1 5/32 to 1 7/32 | 29/32 to 15/16 | 1 1/16 to 1 1/8 | 1 1/16 to 1 1/8 | 1 1/32 to 1 3/32 | 1 1/2 to 1 9/16 | — |
| | 1951 | 1 to 1 1/16 | 1 1/16 to 1 3/32 | 1 1/32 to 1 1/16 | 1 1/32 to 1 1/16 | 1 1/32 to 1 1/16 | 1 to 1 1/16 | 29/32 to 1 1/32 | 1 to 1 1/16 | 1 to 1 1/32 | 1 1/32 to 1 3/32 | — | 1 to 1 3/32 | — | 13/16 to 29/32 | 1 1/32 | 29/32 to 1 1/32 | 1 1/8 to 1 7/32 | 7/8 to 15/16 | 1 1/32 to 1 3/32 | 1 1/16 to 1 3/32 | 1 1/32 to 1 1/16 | 1 1/2 | 1 1/2 to 1 9/16 |
| Upper-Half Mean (in.) | 1948 | 0.98 to 1.16 | 1.07 to 1.13 | 1.05 to 1.09 | — | 0.98 to 1.09 | 0.99 to 1.17 | 0.93 to 1.04 | — | 1.07 to 1.10 | 0.95 to 1.14 | 0.96 to 1.05 | — | 0.86 to 0.92 | 0.74 to 0.85 | 0.99 to 1.06 | 0.85 to 0.96 | 1.44 | 0.96 to 0.97 | 1.07 to 1.14 | 1.01 to 1.18 | 1.09 to 1.12 | — | — |
| | 1949 | 0.95 to 1.13 | 1.05 to 1.10 | 1.05 to 1.06 | 1.05 to 1.10 | — | 1.02 to 1.16 | 0.96 to 1.06 | — | 1.08 to 1.09 | 1.03 to 1.12 | 0.93 to 1.07 | — | 0.86 to 0.88 | 0.82 to 0.90 | 0.98 to 1.06 | 0.94 to 1.06 | 1.21 to 1.28 | 0.92 to 0.93 | 1.09 to 1.17 | 1.09 to 1.16 | 1.04 to 1.13 | — | — |
| | 1950 | 0.98 to 1.16 | 1.08 to 1.10 | 1.06 to 1.11 | 1.08 to 1.14 | 1.01 to 1.10 | 1.52 to 1.16 | 1.05 to 1.12 | 1.06 to 1.07 | 1.02 to 1.07 | 1.01 to 1.16 | 1.03 to 1.10 | — | — | 0.85 to 0.94 | 1.05 to 1.08 | 0.91 to 1.06 | 1.21 to 1.25 | 0.92 to 1.00 | 1.07 to 1.17 | 1.06 to 1.14 | 1.08 to 1.16 | 1.44 to 1.48 | — |
| | 1951 | 0.98 to 1.13 | 1.06 to 1.15 | 0.98 to 1.11 | 1.06 to 1.12 | 0.97 to 1.08 | 1.01 to 1.16 | 0.95 to 1.07 | 1.09 | 0.97 to 1.03 | 1.00 to 1.14 | — | 1.07 to 1.14 | — | 0.78 to 0.92 | 1.03 to 1.05 | 0.88 to 0.96 | 1.18 to 1.26 | 0.91 to 0.96 | 1.06 to 1.14 | 1.07 to 1.15 | 1.06 to 1.14 | 1.45 to 1.55 | 1.42 to 1.53 |
| Uniformity Ratio | 1948 | 72 to 93 | 75 to 81 | 77 to 78 | — | 77 to 81 | 74 to 88 | 74 to 81 | — | 76 to 78 | 76 to 82 | 76 to 78 | — | 79 to 83 | 76 to 82 | 79 to 81 | 76 to 80 | — | 78 to 81 | 80 to 81 | 77 to 81 | 77 to 80 | — | — |
| | 1949 | 75 to 83 | 76 to 80 | 80 to 81 | 78 to 84 | — | 75 to 83 | 77 to 80 | — | 79 to 83 | 74 to 80 | 77 to 79 | — | 84 | 78 to 82 | 80 to 83 | 78 to 83 | 74 to 87 | 79 to 81 | 76 to 82 | 77 to 82 | 76 to 81 | — | — |
| | 1950 | 76 to 85 | 76 to 78 | 77 to 80 | 77 to 80 | 76 to 81 | 75 to 81 | 77 to 79 | 76 to 77 | 77 to 78 | 74 to 84 | 78 to 79 | — | — | 78 to 80 | 79 to 81 | 77 to 81 | 77 to 81 | 77 to 79 | 78 to 82 | 79 to 83 | 77 to 83 | 36 to 39 | — |
| | 1951 | 77 to 82 | 78 to 79 | 78 to 79 | 77 to 80 | 76 to 81 | 78 to 81 | 77 to 81 | 79 | 78 to 81 | 78 to 80 | — | 79 to 81 | — | 78 to 81 | 80 to 81 | 77 to 81 | 77 to 82 | 79 to 82 | 77 to 81 | 76 to 83 | 77 to 80 | 29 to 37 | 32 to 40 |
| Fineness (wt. per in. of fiber) | 1948 | 3.6 to 4.8 | 4.4 to 4.6 | 3.7 to 4.1 | — | 3.8 to 4.6 | 3.5 to 4.9 | 3.4 to 4.8 | — | 3.2 to 3.8 | 3.3 to 4.6 | 3.0 to 4.0 | — | 4.2 to 5.1 | 3.7 to 5.0 | 5.2 to 5.7 | 4.2 to 5.7 | 3.7 to 3.8 | 3.1 to 4.2 | 3.8 to 4.3 | 3.6 to 4.4 | 4.1 to 4.5 | — | — |
| | 1949 | 4.2 to 5.0 | 4.0 to 4.8 | 4.4 to 4.6 | 4.2 to 4.6 | — | 3.0 to 4.9 | 4.2 to 5.2 | — | 4.2 to 4.7 | 3.4 to 4.5 | 2.9 to 3.9 | — | 5.6 | 3.4 to 5.7 | 5.5 to 5.7 | 4.9 to 5.8 | 3.1 to 4.0 | 3.7 to 3.8 | 3.8 to 4.3 | 3.4 to 4.1 | 3.8 to 4.5 | — | — |
| | 1950 | 4.0 to 4.8 | 4.2 to 4.4 | 4.2 to 4.5 | 3.9 to 4.5 | 4.2 to 4.8 | 3.0 to 5.0 | 3.9 to 4.5 | 3.6 to 4.0 | 4.1 to 4.2 | 2.7 to 4.4 | 3.8 to 4.0 | — | — | 3.1 to 5.2 | 5.4 to 5.5 | 4.9 to 5.9 | 3.6 to 4.2 | 3.6 to 4.7 | 3.3 to 4.3 | 3.5 to 4.2 | 4.1 to 4.5 | 3.1 to 3.2 | — |
| | 1951 | 3.7 to 4.8 | 4.0 to 4.4 | 3.8 to 4.5 | 4.0 to 4.5 | 3.6 to 4.4 | 3.5 to 5.2 | 4.2 to 4.7 | 3.6 to 4.2 | 3.6 to 3.8 | 3.8 to 4.3 | — | 3.5 to 4.0 | — | 4.1 to 5.6 | 5.6 to 5.7 | 4.2 to 5.2 | 3.8 to 4.3 | 3.0 to 4.4 | 3.8 to 4.2 | 3.2 to 4.3 | 4.0 to 4.6 | 2.5 to 3.0 | 2.3 to 3.0 |
| Mature Fibers (percent) | 1948 | 71 to 86 | 82 to 87 | 74 to 79 | — | 73 to 82 | 69 to 86 | 71 to 88 | — | 72 to 78 | 70 to 84 | 67 to 78 | — | 68 to 80 | 68 to 84 | 76 to 88 | 75 to 86 | 84 to 87 | 64 to 75 | 77 to 84 | 68 to 84 | 76 to 84 | — | — |
| | 1949 | 82 to 94 | 78 to 90 | 86 to 88 | 82 to 88 | — | 76 to 93 | 84 to 90 | — | 86 to 90 | 79 to 88 | 69 to 85 | — | 88 to 90 | 72 to 90 | 83 to 89 | 84 to 93 | 86 to 90 | 69 to 72 | 76 to 87 | 74 to 87 | 72 to 87 | — | — |
| | 1950 | 74 to 90 | 77 to 84 | 75 to 80 | 71 to 79 | 78 to 87 | 52 to 88 | 72 to 84 | 62 to 74 | 69 to 78 | 62 to 84 | 82 to 86 | — | — | 66 to 85 | 80 to 86 | 82 to 92 | 81 to 88 | 68 to 77 | 76 to 88 | 74 to 84 | 76 to 87 | 76 to 81 | — |
| | 1951 | 74 to 85 | 82 to 87 | 66 to 82 | 79 to 83 | 75 to 87 | 72 to 90 | 80 to 88 | 77 to 82 | 72 to 74 | 77 to 84 | — | 74 to 79 | — | 80 to 90 | 89 to 91 | 78 to 88 | 82 to 88 | 64 to 82 | 79 to 84 | 76 to 82 | 80 to 88 | 82 to 86 | 78 to 88 |
| Tensile Strength (1,000 lb. per sq. in.) | 1948 | 71 to 81 | 78 to 90 | 76 to 81 | — | 71 to 79 | 71 to 90 | 79 to 90 | — | 74 to 80 | 79 to 87 | 82 to 91 | — | 76 to 80 | 78 to 90 | 76 to 82 | 81 to 97 | 91 to 92 | 70 to 72 | 87 to 99 | 77 to 96 | 81 to 90 | — | — |
| | 1949 | 65 to 84 | 70 to 83 | 73 to 80 | 74 to 83 | — | 70 to 82 | 70 to 84 | — | 73 to 77 | 73 to 83 | 83 to 91 | — | 72 to 74 | 69 to 80 | 77 to 80 | 78 to 86 | 86 to 95 | 68 to 71 | 72 to 89 | 82 to 91 | 80 to 87 | — | — |
| | 1950 | 65 to 80 | 69 to 74 | 70 to 83 | 69 to 72 | 70 to 77 | 67 to 80 | 70 to 79 | 70 to 74 | 71 to 72 | 70 to 79 | 78 to 89 | — | — | 67 to 77 | 69 to 70 | 67 to 91 | 86 to 91 | 68 to 71 | 82 to 90 | 82 to 89 | 82 to 91 | 99 to 105 | — |
| | 1951 | 71 to 89 | 79 to 93 | 76 to 95 | 74 to 90 | 81 to 90 | 72 to 93 | 74 to 96 | 69 to 82 | 79 to 94 | 74 to 94 | — | 71 to 78 | — | 76 to 89 | 82 to 91 | 89 to 99 | 80 to 96 | 69 to 83 | 81 to 91 | 82 to 92 | 82 to 103 | 102 to 109 | 99 to 110 |
| Honeydew | 1950 | None to Trace | None | None to Light | None to Light | None to Light | None to Light | None to Mod. | Trace to Light | None to Trace | None to Light | None to Trace | — | — | None to Trace | None | None to Light | Trace to Light | Trace to Mod. | None to Light | Trace to Light | None to Light | None to Trace | — |
| | 1951 | None to Light | None to Trace | None to Light | None to Trace | None to Light | None to Mod. | None to Light | Trace to Mod. | None to Trace | None to Light | — | Trace to Light | — | None to Light | None | None to Light | None to Trace | None to Mod. | None to Trace | None to Trace | None to Light | None | None to Trace |
| **Manufacturing Performance** | | | | | | | | | | | | | | | | | | | | | | |
| Nonlint Content (percent) | 1948 | 2.8 to 7.5 | 3.6 to 5.4 | 3.2 to 4.0 | — | 2.3 to 5.3 | 2.8 to 10.2 | 2.8 to 7.0 | — | 2.3 to 3.9 | 3.0 to 11.6 | 2.5 to 5 | — | 2.8 to 4.0 | 3.4 to 6.0 | 3.2 to 5.2 | 2.7 to 6.8 | 2.7 to 3.0 | 3.8 to 8.4 | 3.0 to 3.2 | 2.8 to 4.2 | 3.4 to 5.9 | — | — |
| | 1949 | 3.1 to 6.6 | 2.8 to 4.6 | 3.9 to 4.3 | 3.5 to 6.1 | — | 3.5 to 6.5 | 3.8 to 6.3 | — | 4.6 to 5.1 | 3.0 to 6.3 | 3.0 to 6.2 | — | 3.2 to 3.5 | 3.3 to 5.2 | 3.1 to 5.9 | 3.2 to 6.2 | 2.7 to 3.6 | 6.0 to 7.7 | 2.6 to 4.0 | 2.7 to 4.0 | 3.1 to 4.7 | — | — |
| | 1950 | 1.7 to 5.6 | 2.2 to 6.8 | 2.6 to 4.7 | 3.1 to 4.8 | 1.9 to 3.8 | 1.8 to 11.6 | 2.9 to 4.8 | 2.1 to 2.9 | 2.1 to 3.2 | 2.2 to 10.9 | 2.4 to 3.4 | — | — | 2.6 to 6.0 | 2.7 to 3.1 | 2.1 to 5.3 | 1.7 to 3.5 | 2.5 to 8.0 | 2.2 to 4.5 | 2.4 to 4.1 | 2.5 to 4.7 | 1.4 to 4.7 | — |
| | 1951 | 1.8 to 6.1 | 3.4 to 4.8 | 2.5 to 4.4 | 3.4 to 10.0 | 3.2 to 4.3 | 1.7 to 7.8 | 1.2 to 7.4 | 1.8 to 2.4 | 3.4 to 3.6 | 2.4 to 9.3 | — | 2.3 to 6.8 | — | 2.0 to 5.0 | 2.2 to 3.3 | 3.0 to 10.8 | 1.9 to 3.4 | 2.6 to 9.6 | 2.4 to 5.9 | 2.3 to 4.9 | 2.0 to 6.6 | 1.5 to 3.2 | 2.2 to 6.2 |
| Picker and Card Waste (percent) | 1948 | 6.7 to 13.1 | 7.2 to 11.0 | 5.7 to 7.6 | — | 6.0 to 9.3 | 5.8 to 15.4 | 5.7 to 10.4 | — | 6.9 to 8.6 | 5.7 to 16.5 | 6.3 to 9.2 | — | 7.8 to 9.0 | 7.4 to 11.3 | 5.8 to 9.5 | 7.8 to 11.4 | 10.1 to 10.3 | 6.4 to 12.4 | 5.0 to 7.8 | 4.6 to 9.3 | 5.1 to 8.7 | — | — |
| | 1949 | 7.4 to 13.8 | 7.6 to 10.0 | 8.1 to 9.2 | 7.2 to 9.8 | — | 6.8 to 11.2 | 8.8 to 13.7 | — | 8.8 to 9.6 | 7.6 to 12.0 | 7.4 to 12.6 | — | 9.0 to 10.2 | 9.6 to 12.1 | 8.4 to 11.7 | 8.5 to 13.2 | 7.8 to 10.2 | 12.2 to 12.5 | 7.6 to 11.7 | 7.7 to 12.1 | 8.3 to 11.8 | — | — |
| | 1950 | 6.7 to 10.7 | 7.1 to 13.6 | 7.2 to 8.7 | 7.7 to 9.2 | 6.6 to 8.7 | 6.8 to 17.6 | 8.1 to 10.5 | 7.8 to 10.2 | 7.2 to 8.8 | 7.4 to 17.8 | 7.6 to 8.8 | — | — | 8.3 to 11.4 | 7.5 to 9.0 | 7.3 to 12.6 | 7.5 to 9.4 | 8.6 to 12.4 | 7.5 to 11.7 | 7.4 to 9.7 | 6.5 to 10.5 | 9.7 to 12.8 | — |
| | 1951 | 6.2 to 10.6 | 8.2 to 10.6 | 6.1 to 9.0 | 7.4 to 14.4 | 7.3 to 10.2 | 5.8 to 12.8 | 7.0 to 11.0 | 7.1 to 7.7 | 8.8 to 9.2 | 6.7 to 15.0 | — | 6.6 to 10.7 | — | 7.3 to 10.6 | 7.0 to 9.5 | 8.6 to 13.9 | 7.1 to 8.2 | 8.9 to 14.1 | 7.2 to 11.2 | 8.3 to 10.1 | 6.0 to 12.4 | 7.6 to 10.1 | 9.0 to 13.3 |
| Comber Waste (percent) | 1948 | No tests run | No tests run | No tests run | No tests run | No tests run | No tests run | No tests run | No tests run | No tests run | No tests run | No tests run | No tests run | No tests run | No tests run | No tests run | No tests run | 13.5 to 16.1 | No tests run | — | — | — | — | — |
| | 1949 | No tests run | No tests run | No tests run | No tests run | No tests run | No tests run | No tests run | No tests run | No tests run | No tests run | No tests run | No tests run | No tests run | No tests run | No tests run | No tests run | — | No tests run | — | — | — | — | — |
| | 1950 | No tests run | No tests run | No tests run | No tests run | No tests run | No tests run | No tests run | No tests run | No tests run | No tests run | No tests run | No tests run | No tests run | No tests run | No tests run | No tests run | 15.0 to 17.3 | No tests run | 14.5 to 17.7 | 14.0 to 17.4 | 15.1 to 16.3 | 15.2 to 16.9 | — |
| | 1951 | No tests run | No tests run | No tests run | No tests run | No tests run | No tests run | No tests run | No tests run | No tests run | No tests run | No tests run | No tests run | No tests run | No tests run | No tests run | No tests run | 14.3 to 18.0 | No tests run | 12.5 to 17.4 | 14.4 to 15.9 | — | 14.5 to 17.4 | 15.8 to 18.0 |
| Neps (100 sq. in. of card web) | 1948 | 11 to 75 | 17 to 39 | 24 to 48 | — | 17 to 40 | 8 to 58 | 8 to 13 | — | 24 to 37 | 14 to 46 | 11 to 42 | — | 14 to 20 | 6 to 37 | 5 to 18 | 8 to 33 | 25 to 29 | 30 to 64 | 28 to 49 | 23 to 74 | 13 to 51 | — | — |
| | 1949 | 17 to 61 | 19 to 68 | 26 to 27 | 27 to 28 | — | 13 to 53 | 12 to 62 | — | 19 to 21 | 20 to 59 | 22 to 59 | — | 11 to 17 | 5 to 52 | 7 to 24 | 6 to 27 | 21 to 89 | 66 to 71 | 18 to 66 | 29 to 84 | 24 to 81 | — | — |
| | 1950 | 12 to 43 | 17 to 32 | 14 to 27 | 17 to 31 | 12 to 30 | 10 to 108 | 19 to 48 | 32 to 44 | 19 to 22 | 9 to 147 | 24 to 31 | — | — | 13 to 90 | 4 to 9 | 9 to 22 | 20 to 36 | 21 to 31 | 19 to 50 | 27 to 51 | 19 to 33 | 18 to 30 | — |
| | 1951 | 12 to 49 | 21 to 64 | 18 to 37 | 11 to 26 | 13 to 41 | 8 to 52 | 14 to 46 | 21 to 30 | 17 to 37 | 10 to 47 | — | 16 to 27 | — | 7 to 19 | 3 to 10 | 7 to 52 | 23 to 50 | 19 to 54 | 23 to 40 | 19 to 47 | 11 to 42 | 9 to 41 | 10 to 23 |
| Strength of 14s Yarn (lb.) | 1948 | 160 to 206 | 179 to 210 | 186 to 191 | — | 170 to 200 | 167 to 208 | 181 to 199 | — | 194 to 203 | 174 to 211 | 181 to 205 | — | 168 to 174 | 129 to 160 | 176 to 186 | 156 to 176 | — | 168 to 174 | 227 to 237 | 176 to 227 | 209 to 221 | No tests run | No tests run |
| | 1949 | 126 to 203 | 169 to 202 | 178 to 200 | 193 to 204 | — | 155 to 209 | 169 to 195 | — | 183 to 207 | 168 to 205 | 187 to 219 | — | 172 to 173 | 139 to 174 | 150 to 169 | 154 to 181 | 229 to 257 | 149 to 164 | 194 to 242 | 203 to 249 | 172 to 215 | No tests run | No tests run |
| | 1950 | 159 to 217 | 135 to 157 | 160 to 187 | 160 to 172 | 158 to 188 | 139 to 203 | 160 to 194 | 166 to 182 | 159 to 171 | 152 to 191 | 183 to 186 | — | — | 126 to 153 | 139 to 161 | 144 to 171 | — | 152 to 157 | — | — | 175 to 220 | No tests run | No tests run |
| | 1951 | — | — | — | — | — | — | — | — | — | — | — | — | — | 146 to 159 | — | 147 to 169 | — | 155 to 168 | — | — | — | No tests run | No tests run |
| Strength of 22s Yarn (lb.) | 1948 | 95 to 120 | 107 to 124 | 111 to 114 | — | 100 to 119 | 101 to 128 | 108 to 120 | — | 116 to 119 | 104 to 128 | 114 to 123 | — | 98 to 103 | 75 to 94 | 95 to 111 | 88 to 104 | — | 99 to 104 | 133 to 147 | 105 to 140 | 126 to 137 | No tests run | No tests run |
| | 1949 | 75 to 116 | 103 to 115 | 106 to 114 | 114 to 117 | — | 93 to 128 | 100 to 118 | — | 113 to 119 | 103 to 127 | 115 to 137 | — | 98 to 99 | 81 to 101 | 88 to 99 | 89 to 108 | 142 to 153 | 93 to 98 | 117 to 145 | 122 to 151 | 110 to 130 | No tests run | No tests run |
| | 1950 | 93 to 128 | 81 to 94 | 97 to 112 | 96 to 106 | 96 to 114 | 83 to 118 | 98 to 113 | 100 to 109 | 97 to 103 | 92 to 116 | 112 to 113 | — | — | 75 to 88 | 83 to 95 | 84 to 104 | 146to156(159to168) | 91 to 96 | 122to139(*135to150) | 133to143(*147to156) | 106to138(*140to151) | No tests run | No tests run |
| | 1951 | 100 to 132 | 108 to 126 | 102 to 117 | 97 to 119 | 101 to 124 | 98 to 126 | 105 to 118 | 111 to 114 | 87 to 103 | 95 to 123 | — | 114 to 119 | — | 87 to 97 | 109 to 115 | 88 to 104 | 145to162(158to181) | 96 to 101 | 131to150(*147to162) | 139to146(*152to159) | 114 to 138 | No tests run | No tests run |
| Strength of 36s Yarn (lb.) | 1948 | 52 to 67 | 57 to 70 | 60 to 63 | — | 54 to 66 | 54 to 71 | 56 to 66 | — | 64 to 66 | 56 to 71 | 61 to 70 | — | 50 to 54 | 33 to 46 | 48 to 58 | 43 to 53 | — | 51 to 56 | 76 to 81 | 58 to 79 | 68 to 75 | — | — |
| | 1949 | 40 to 64 | 57 to 64 | 59 to 62 | 60 to 63 | — | 51 to 72 | 55 to 65 | — | 62 to 64 | 55 to 71 | 64 to 77 | — | 49 to 50 | 41 to 55 | 45 to 53 | 46 to 58 | 78 to 83 | 50 to 52 | 63 to 79 | 65 to 82 | 57 to 74 | — | — |
| | 1950 | 52 to 70 | 44 to 53 | 53 to 62 | 52 to 58 | 52 to 63 | 45 to 65 | 53 to 65 | 55 to 60 | 53 to 56 | 50 to 62 | 62 to 63 | — | — | 37 to 46 | 44 to 52 | 44 to 57 | 81 to 89 (88 to 93) | 46 to 51 | 68 to 76 (*74 to 84) | 73 to 81 (*80 to 85) | 60 to 77 (*76 to 84) | 106 to 109 | — |
| | 1951 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Strength of 50s Yarn (lb.) | 1948 | 36 to 40 | — | — | — | 34 to 38 | 38 | 36 to 41 | — | — | — | — | — | — | — | 30 to 36 | 32 to 33 | — | 36 to 38 | — | — | — | — | — |
| | 1949 | 25 to 41 | 34 to 40 | 38 to 40 | 39 to 40 | — | 31 to 46 | 35 to 40 | — | 40 to 41 | 34 to 45 | 38 to 50 | — | 30 | — | — | 30 to 34 | 52 to 56 | Beyond sp. limits | 42 to 52 | 43 to 54 | 39 to 46 | — | — |
| | 1950 | 33 to 46 | 27 to 32 | 33 to 39 | 33 to 38 | 33 to 39 | 28 to 43 | 33 to 39 | 35 to 38 | 34 to 36 | 31 to 42 | 38 to 41 | — | — | — | 25 to 31 | — | 53 to 59 (59 to 63) | — | 44 to 50 (*49 to 56) | 48 to 54 (*53 to 60) | 37 to 51 (*51 to 56) | 70 to 74 | — |
| | 1951 | 35 to 47 | 39 to 46 | 35 to 41 | 34 to 43 | 33 to 43 | 34 to 46 | 34 to 41 | 39 to 40 | 29 to 36 | 32 to 45 | — | 41 to 42 | — | — | 36 to 39 | — | 54 to 60 (60 to 68) | — | 47 to 56 (*52 to 60) | 50 to 54 (*56 to 60) | 41 to 50 | 74 to 76 | 69 to 76 |
| Strength of 60s Yarn (lb.) | 1948 | 25 to 36 | 30 to 36 | 30 to 33 | — | 30 to 34 | 27 to 36 | 30 to 33 | — | 33 to 35 | 28 to 36 | 30 to 37 | — | No 60s spun | No 60s spun | 26 to 29 | — | 47 to 48 | No tests run | 38 to 44 | 29 to 41 | 35 to 38 | No tests run | No tests run |
| | 1949 | — | — | — | — | — | — | — | — | — | — | — | — | | | — | — | — | No tests run | — | — | — | No tests run | No tests run |
| | 1950 | — | — | — | — | — | — | — | — | — | — | — | — | | | — | — | — | No tests run | — | — | — | No tests run | No tests run |
| | 1951 | — | — | — | — | — | — | — | — | — | — | — | — | | | — | — | — | No tests run | — | — | — | No tests run | No tests run |
| Yarn Strength Index | 1948 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 1949 | 73 to 99 | 84 to 98 | 93 to 99 | 95 to 97 | — | 79 to 107 | 86 to 103 | — | 93 to 99 | 84 to 102 | 100 to 115 | — | 96 | 85 to 104 | 79 to 94 | 86 to 99 | 102 to 110 | 92 to 98 | 98 to 112 | 98 to 117 | 87 to 109 | — | — |
| | 1950 | 80 to 107 | 66 to 80 | 83 to 94 | 80 to 88 | 80 to 94 | 68 to 97 | 92 to 99 | 91 to 93 | 82 to 88 | 76 to 96 | 95 to 97 | — | — | 71 to 93 | 68 to 81 | 75 to 97 | 110 to 116 | 90 to 92 | 99 to 111 | 104 to 118 | 92 to 113 | — | — |
| | 1951 | 91 to 115 | 88 to 102 | 88 to 101 | 84 to 100 | 85 to 103 | 82 to 103 | 92 to 107 | 92 to 102 | 73 to 88 | 85 to 104 | — | 95 to 104 | — | 95 to 103 | 91 to 98 | 80 to 99 | 108 to 124 | 97 to 100 | 106to119(*108to120) | 117to120(*117to123) | 99 to 116 | 100 to 105 | 95 to 104 |
| Appearance of 22s Yarn | 1948 | D+ to B+ | C+ to B | C to B | — | C to B | C to B+ | D to B+ | — | C to B | C to B+ | C+ to B | — | B to B+ | C to B+ | C+ to B+ | C+ to B | — | C to C+ | C+ | D+ to C+ | C+ | No tests run | No tests run |
| | 1949 | C+ to B+ | C to B+ | B to B+ | C+ to B | — | C+ to B+ | C+ to B | — | B | C to B+ | C+ to B | — | B+ | C+ to B+ | B to B+ | C+ to B+ | D+ to C+ | C to B | C to C+ | D+ to C+ | C to B | No tests run | No tests run |
| | 1950 | C+ to B+ | C to B | C+ to B+ | C+ | C+ to B+ | D+ to B+ | D+ to B | C to B | B to B+ | D to B+ | C+ to B | — | — | D+ to B | B to B+ | C+ to B+ | CtoB(C+toB+) | C+ to B | D+toB+(*CtoB+) | CtoB+(*C+toB+) | C to B (*B to B+) | No tests run | No tests run |
| | 1951 | C to B+ | C+ to B | B to B+ | C+ to B | C to B+ | C+ to B+ | C to B+ | C to B | C+ to B | C+ to B+ | — | B to B+ | — | B to B+ | B+ | C+ to B+ | CtoC+(C+toB) | C to C+ | CtoC+(*C+toB) | CtoC+(*C+toB) | C+ to B | No tests run | No tests run |
| Appearance of 36s Yarn | 1948 | D to B+ | C to C+ | C | — | C to C+ | D+ to B | D− to B | — | C to C+ | D+ to C+ | D+ to C+ | — | C+ to B | C to C+ | C+ to B | D+ to C+ | — | D to C | D+ to C | D to C | D+ to C | — | — |
| | 1949 | D+ to B | D+ to B | C+ | C+ | — | D+ to B | C to B | — | B | D+ to B | C to B | — | B+ | C to B | C+ to B+ | C to B | D+ to C | C to C+ | D+ to C | D to C | D+ to C+ | — | — |
| | 1950 | C to B+ | D to C+ | C to B | C to C+ | C to B | D+ to B | D to C+ | D to C | C+ to B | D− to C+ | C to C+ | — | — | D to B | C+ to B+ | C to B | D+toC+(C+toB) | C to C+ | DtoC+(*CtoB) | D+,toB(*CtoB+) | D+ to C+ (*C+) | B to B+ | — |
| | 1951 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Appearance of 50s Yarn | 1948 | — | — | — | — | — | — | — | — | — | — | — | — | No tests run | No tests run | No tests run | No tests run | — | No tests run | — | — | — | — | — |
| | 1949 | — | — | — | — | — | — | — | — | — | — | — | — | No tests run | No tests run | No tests run | No tests run | — | No tests run | — | — | — | — | — |
| | 1950 | — | — | — | — | — | — | — | — | — | — | — | — | No tests run | No tests run | No tests run | No tests run | — | No tests run | — | — | — | — | — |
| | 1951 | C to B | C to C+ | C to B | C to C+ | C to B | C to B+ | D+ to B | C to C+ | D to C+ | D+ to B | — | C to C+ | No tests run | No tests run | No tests run | No tests run | D+toC+(CtoC+) | No tests run | C to C+ (*C+) | CtoC+(*CtoC+) | C to B | C+ to B+ | C+ to B+ |
| Yarn Appearance Index | 1948 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 1949 | 90 to 115 | 90 to 112 | 105 to 110 | 105 to 108 | — | 90 to 110 | 95 to 112 | — | 110 | 92 to 112 | 98 to 110 | — | 120 | 103 to 113 | 110 to 120 | 103 to 117 | 85 to 98 | 107 | 90 to 98 | 80 to 98 | 90 to 102 | — | — |
| | 1950 | 95 to 115 | 85 to 100 | 100 to 112 | 98 to 105 | 102 to 115 | 82 to 112 | 80 to 105 | 82 to 102 | 105 to 112 | 75 to 112 | 98 to 108 | — | — | 83 to 113 | 108 to 118 | 100 to 117 | 83to103(83to107) | 100 to 110 | 73to103(*87to113) | 87to107(*93to117) | 92to108(*103to107) | 107 to 113 | — |
| | 1951 | 90 to 115 | 95 to 105 | 100 to 115 | 95 to 105 | 95 to 115 | 95 to 120 | 85 to 115 | 90 to 105 | 85 to 105 | 90 to 115 | — | 100 to 110 | — | 100 to 120 | 120 | 105 to 120 | 85to95(95to105) | 90 to 105 | 90to100(*100to105) | 90to100(*95to105) | 95 to 115 | 100 to 120 | 100 to 115 |

* Combed (Acala 1517; Acala 4-42)

## Regions of Growth

| Southeast Region | Mid-South Region | Southwest Region |
|---|---|---|
| Alabama | Arkansas | Oklahoma |
| Florida | Louisiana | Texas |
| Georgia | Mississippi | |
| North Carolina | Missouri | **Far-West Region** |
| South Carolina | Tennessee | Arizona |
| Virginia | | California |
| | | New Mexico |

## Ratings of Fiber-Property and Manufacturing-Performance Values

**UNIFORMITY**

| | |
|---|---|
| Above 80 | Uniform |
| 76 to 80 | Average |
| 71 to 75 | Slightly irregular |
| 70 and below | Irregular |

**COEFFICIENT OF FIBER-LENGTH VARIATION**

| | |
|---|---|
| Below 27 | Low variability |
| 27 to 34 | Average variability |
| 35 and above | High variability |

**FINENESS**

| | |
|---|---|
| Below 3.0 | Very fine |
| 3.0 to 3.9 | Fine |
| 4.0 to 4.9 | Average |
| 5.0 to 5.9 | Coarse |
| 6.0 and above | Very coarse |

**MATURITY**

| | |
|---|---|
| Above 84 | Very mature |
| 77 to 84 | Mature |
| 68 to 76 | Average |
| 60 to 67 | Immature |
| Below 60 | Very immature |

**FIBER STRENGTH**

| | |
|---|---|
| 93 and above | Superior |
| 87 to 92 | Very strong |
| 81 to 86 | Strong |
| 75 to 80 | Average |
| 70 to 74 | Fair |
| Below 70 | Weak |

**AVERAGE WASTE BY GRADE***

| | |
|---|---|
| Good Middling | 6.3 |
| Strict Middling | 7.2 |
| Middling | 8.1 |
| Strict Low Middling | 9.3 |
| Low Middling | 12.5 |
| Strict Good Ordinary | 15.6 |
| Good Ordinary | 18.3 |

* Grades effective until Aug., 1953

**NONLINT CONTENT BY GRADE*** (Upland cotton)

| | |
|---|---|
| Strict Good Middling | 2.0 |
| Good Middling | 2.4 |
| Strict Middling | 2.9 |
| Middling | 3.7 |
| Strict Low Middling | 5.1 |
| Low Middling | 7.6 |
| Strict Good Ordinary | 11.0 |
| Good Ordinary | 17.0 |

* Grades effective until Aug., 1953

**NONLINT CONTENT BY GRADE** (American Egyptian cotton)

| | |
|---|---|
| 1 | 1.9 |
| 1½ | 2.4 |
| 2 | 3.3 |
| 2½ | 4.7 |
| 3 | 6.5 |
| 3½ | 8.8 |
| 4 | 11.5 |
| 4½ | 14.7 |
| 5 | 18.3 |

**NEPS** (Medium-staple Upland cottons)

| | |
|---|---|
| Below 16 | Low |
| 16 to 25 | Average |
| 26 to 40 | High |
| Above 40 | Very high |

**YARN APPEARANCE**

| | |
|---|---|
| A and above | Excellent |
| B+ | Very good |
| B | Good |
| C+ | Average |
| C | Fair |
| D+ | Poor |
| D and below | Very poor |

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1953 REVISION

TEXTILE WORLD'S

# COTTON-FIBER TABLE

## *What's Happening to* COTTON?

▸ **Cotton, more than any other fiber, is undergoing change. Few years pass without at least one variety dropping from the rank of commercial importance and one or more varieties, bred for better yield and spinning character, joining that rank.**

▸ **Not only is cotton itself being improved; but methods of marketing, selecting, and testing cotton are also in a state of change.**

**In all these activities, one end result is sought: better quality-plus-price textiles for the final consumer.**

▸ **A brief look at some of the things that are happening to cotton is given in the following pages. Some of the factors discussed are—**

- **How the use of cotton is increasing**
- **How mills select their cotton**
- **What's happening to cotton varieties**

**By P. M. THOMAS,** *Editor,* TEXTILE WORLD

# What You Can Expect From 1952 COTTON

**USDA fiber and spinning tests show that, based on first pickings—**

- **Fiber strength is the best in 7 yr., except for Texas**
- **Fineness is about the same as for the 1951 crop**
- **Yarn strength is a little lower, except for California**
- **Yarn appearance is better for the Southeastern and Central sections, the same for Texas, and a little lower for California**

**By JOHN M. COOK**
Cotton Technologist, Cotton Branch, PMA, USDA

MOST STAPLE LENGTHS grown commercially are represented by the cottons included in the USDA fiber-and-spinning study reported on here. Since the bulk of the cotton grown in this country now falls into the staple-length range of 1 1/32 to 1 3/32 in., this study of the spinning qualities and some of the fiber properties of cottons in this range gives a good indication of the quality of the crop from the various sections.

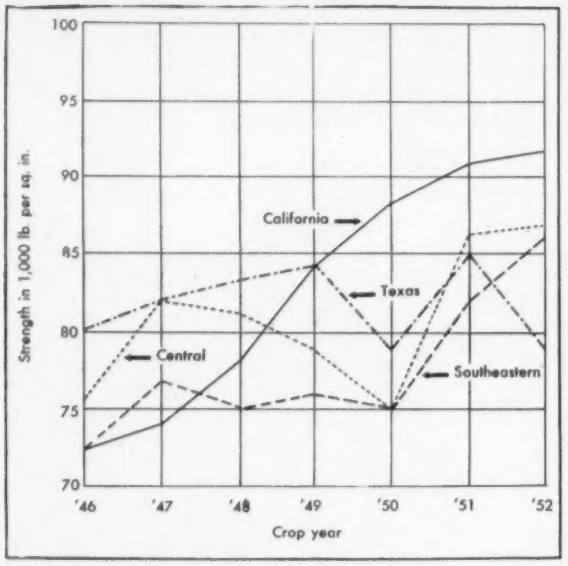
### How You Can Use These Results

The results from this report may be used to compare cottons from different locations and different crop years to determine whether they will meet a particular end use. The fiber properties of questionable samples available for a mill run may also be compared with those in the report, where both fiber-property measurements and spinning qualities are listed, to estimate the level that should be obtained.

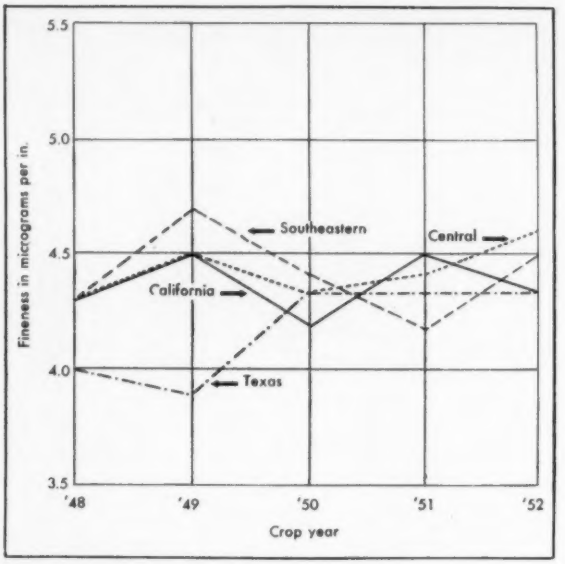
Care should be used in making comparisons. For example, results for long-staple cottons are not comparable directly with those for shorter staples carded at different rates.

**Charts on next two pages show . . .**

## . . . Test results for 1952 cotton




**Fiber strength by Pressley test**




**Fiber fineness by Micronaire**

### Fiber Strength

Cottons from California and the Southeastern states averaged the strongest of those we have tested, and the average for the Central states was only 1,000 lb. below last year's results, which were the strongest we have recorded from that section.

The Southeastern states averaged 86,000 lb. in 1952–4,000 lb. stronger than the average of the first picking for 1951, which was next to strongest year. The weakest of the crops for the 7 yr. we have tested was 72,000 lb. from the 1946 crop.

Average fiber strength for the Central states was 87,000 lb.–the highest for the years tested. The low for the 7 yr. was 75,000 lb. for the 1950 crop.

Texas cottons average 79,000 lb for this year–one of the two lowest for these cottons. The high for Texas cottons was 85,000 lb. for the 1951 crop.

California cottons averaged higher than any of those from this state for the last seven crops. The strength of the first picking was 92,000 lb., compared with 91,000 for the 1951 crop and 72,000 for 1946, which was the lowest of the 7 yr.

### Fiber Fineness

We have been measuring fiber fineness with the Micronaire since 1948. There has been no appreciable change in fiber fineness of the crops from the different states and sections during the last 5 yr.

Small fineness differences introduced by breeders are reflected very slowly when averages such as these are used. Cottons from the Southeastern states have shown the greatest variation in the last five crops. The extremes for these cottons were 4.7 micrograms per inch for the 1949 crop (the coarsest) and 4.2 mg. per in. for the 1951 crop (the finest). The other areas showed ranges averaging no greater than 0.3 mg. per in.

### Yarn Strength

The yarn strengths from all the states where cotton is produced under natural rainfall conditions were lower for this year's cotton than for last year's. The Southeastern cotton was five index points lower for 1952 than for 1951. The 1948 crop also produced stronger yarns than did the 1952 cotton. The average index for 1952 was 98. Four of the other seven years were lower–1946, 1947, 1949, and 1950.

The average yarn-strength index for the Central states was 95 this year, in comparison with 98 for the 1951 crop. Only one year was lower than the 1952 crop–1950. The highest crop of the seven tested was 1948, with an index of 101.

The samples from Texas, with an average index of 95, were as low in yarn strength as any we have tested from this state. This level was the same as that obtained in 1950. The high for the Texas samples (1949) was 105.

The average strength index of 105 for the California samples was the highest of the 7 yr. we have tested. This index compares with a next-to-high figure of 104 for the 1951 and 1949 crops and a low of 95 for 1946.

### Yarn Appearance

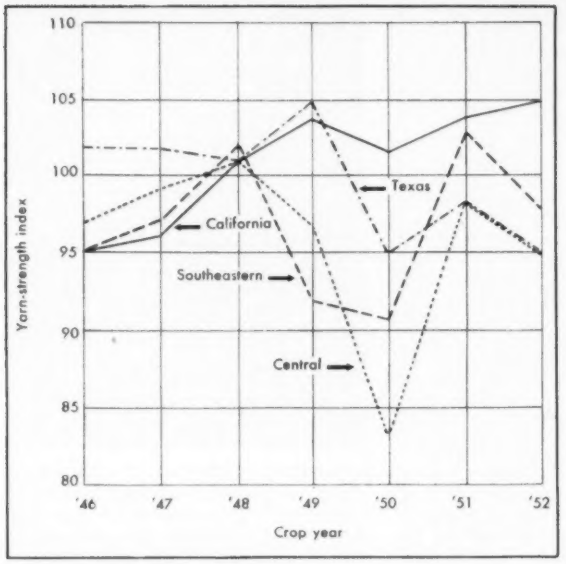
The Southeastern and Central areas produced better grades of yarns than they did last year. The average index for each was the highest of the 7 yr. tested. The indexes were 109 and 110, respectively, for these two areas. (Our index of 100 is equal to a grade of C+, 110 is equal to B, and 90 is equal to C.) The average yarn-appearance index for Texas cotton was 106–the same as that for the 1950 and 1951 crops. These three indexes are the highest of the seven crop years tested for Texas.

Samples of the 1952 crop from California gave the lowest yarn-appearance index of any. This index of 101 is lower than the average of 102 for the 1951 crop and the same as that for the 1946 samples. Those indexes from 1947 to 1950 were lower in appearance grade.

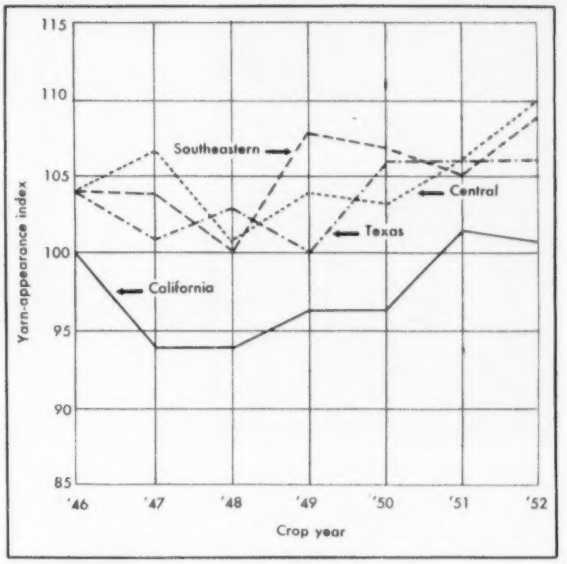
#### How Samples Are Taken

The Research and Testing Div., Cotton Branch, U. S. Dept. of Agriculture, has been making fiber and spinning tests in its laboratories at College Station, Tex., and Clemson, S. C., on some of the most important varieties of cotton produced commercially each year since 1946.

The cottons tested are from areas growing predominantly one variety. Each area produces at least 10,000 bales, except in a few cases. Results are published monthly and usually include a report on the cotton




**Yarn-strength indexes**




**Yarn-appearance indexes**

harvested from July or early August through November or December, depending on when most of the cotton is harvested. A summary report that includes all test results for the crop year is published after all samples have been received.

Bale samples sent to the classing offices of the Cotton Branch for Smith-Doxey classification are collected by these offices into even-running grades and staples to make up each fiber-and-spinning-test lot. Each lot represents the predominant grade and staple length received by the classing office from the particular area up to the time the lot is completed and ready for shipment. The lots are then spaced to give representative samples for early, mid-season, and late-season harvestings.

The number of areas from which samples have been tested has increased each year since this study was started in 1946. There were 68 areas represented the first year; 86 in 1947; 104 in 1948; 105 in 1949; 109 in 1950; 112 in 1951; and approximately 112 in 1952. In 1946, only one spinning-test lot was obtained from each area for the whole season; in 1947, lots representing two harvesting periods were collected; the test lots since 1947 have been represented by three harvesting periods.

## How the Tests Are Conducted

Tests have been made on both long- and short-staple cottons, but the examples ranging in length from 1 $\frac{1}{2}$ to 1 $\frac{3}{32}$ in. make up a large proportion of the cottons tested. This range was selected for this study because it includes a good representation from all Cotton-Belt states.

Because test results are not available on second and third pickings for all years considered in this report, the data in this report are from the first picking received in all years from 1946 to 1952.

Samples from 20 to 40 bales are usually collected for each spinning-test lot. Small pinches from each of these samples are composited for fiber tests. A mix of bale samples is made at the picker for the spinning-test lot, and all samples are run into one finisher-picker lap. Thus, each lot is similar to a mill mix.

Shirley Analyzer tests are made on a representative sample from each lot, and the cleaned lint is used for color measurements. Sugar tests are also made on a well-composited sample representing each lot.

Fiber-test results are obtained for each spinning-test lot on length and length uniformity by the Fibrograph, strength by the Pressley test, fineness by the Micronaire, and maturity by counting fibers subjected to the action of sodium hydroxide. These physical fiber properties make up "character," and they also give a good indication as to the probable spinning-quality level of the cotton.

The spinning-test lots in these studies were spun into yarn numbers from 14s to 60s carded yarns. Each yarn was reeled into skeins and broken. Results from only carded yarns are included. Yarn-strength levels were then calculated for the indexes. An index of 100 indicates that the yarn strengths for the cotton are at the level expected from the particular staple length. Stronger yarns than those expected from the staple length of cotton used yield indexes above 100. Conversely, weaker yarns yield indexes below 100.

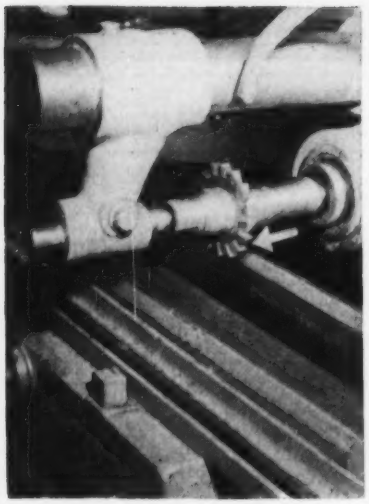
### Don't Go "All-Out" on Any Single Fiber Property

**From time to time too much importance is given a single fiber property to the neglect of the others in estimating spinning quality. Most of the properties now measured have at one time or another been given too much emphasis. Until recently, there has been a tendency to give too much importance to fiber strength. Fiber strength is, however, the most important single property that affects strength of yarn made from staple lengths of 1 1/32 to 1 3/32 in.**

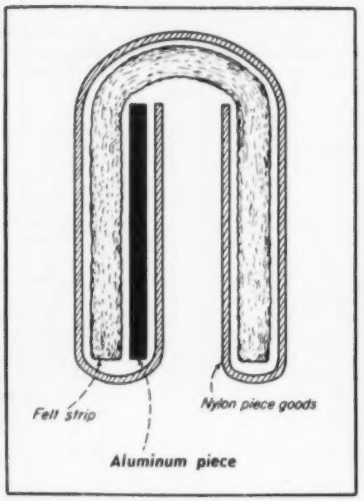
**At present, there is a tendency to give too much importance to the Micronaire fineness reading. This property is important and very valuable, but other fiber properties still have the same importance that they had before this instrument came into use.**

**The fineness readings probably help most in making mixes for uniformity of dyeing and finishing. By keeping the mix close to one fineness level, you also keep the other fiber properties at a more uniform level.**

**However, if the classer has done a good job in his classing for staple length, it is possible to get a weak-fibered mix in the mill if Micronaire tests are depended on entirely, even though fineness is held within a narrow range. And a weak cotton mix will, of course, have a direct effect on the strength of the product you make.**



SLOTS for the applicators are cut out on a milling machine. Marks for the slots are made with a center punch directly in line with the porcelain eyes leading into the yarn box. The slots measure 15/16x2 in. The felt applicators fit securely in the slots.




THE APPLICATOR is made from a strip of felt ¼ in. thick, 1 in. wide, and 4¼ in. long. The covering around the felt is a strip of nylon fabric 1 1/16 in. wide and 7¾ in. long. The aluminum support is 1/16 in. thick, 1 in. wide, and 1¾ in. long.

APPLICATOR IS FORCED into its slot with a putty knife. The end of the applicator should rest on the inside bottom of the pipe. The aluminum support in the applicator holds it erect. A vise holds the pipe during this operation.

### If You Use Oil on Your Full-Fashioned Yarn—

# *You Can Reduce Press-Offs With This* YARN-OIL SYSTEM

**▶ Here is a system that will give you an equal oil application on every feed and an equal tension across every oil applicator.**

**The cost: $18.**

**The labor time: 4 hr.**

**By H. B. LeFEAUX**
**Consulting Editor, TEXTILE WORLD, Superintendent, Vanette Hosiery Mills**

THIS SYSTEM FOR APPLYING OIL to full-fashioned yarn will practically eliminate leg press-offs if the pin or cone is in good shape. The system consists of nylon-covered felt applicators stuck in a pipe line that is fed from a water jug on the end of the full-fashioned machine. We have the system on all of our 60-gauge machines and plan to put it on some of our 51-gauge machines. The equipment can be made for about $18, and in about 4 hr. if you have a milling machine.

The advantages of the system are:

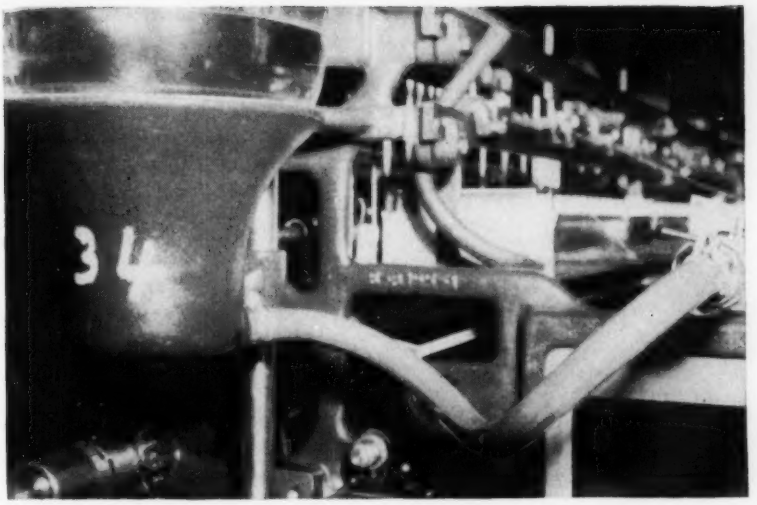
1. Fewer press-offs in your main yarn
2. More even lengths because of even tension
3. Easier for the knitter to thread up right
4. Yarn can be run right out of the yarn box
5. Less oil is required
6. Oil application is equal on every feed
7. Lower carrier-tube replacement

## Oil Is Recommended

The knitting of pirn or thrown 15-den. yarn over or around an oily felt is highly recommended. The oil makes the yarn more pliable during the loop formation. The oil also has a tendency to keep size from accumulating on the sinkers, dividers, and knock-off bits; and at the same time the oil gives an extra lubrication to the sinkers and dividers, and this lubrication in turn helps to keep the catch bar working smoothly. (However, the small amount of oil that comes off on the sinkers and dividers is not enough lubrication for these parts. Be sure to have your knitters apply a good lubricant into the sinker heads daily.)

There are numerous causes of press-offs. Nonmechanical causes are poorly wound cones or pins, knots in the yarn, and carelessness in threading the yarn through the guides and rings. There are also mechanical causes: needle breaking, worn carrier tubes,

END PIECES are made from ordinary 1-in. pipe caps. The hose connection (left) is made by welding a ½-in. pipe in a hole drilled in the cap. The gauge (right) is made by anchoring a piece of plastic over a ¾-in. hole drilled in the cap.



A WATER JUG holds the supply of oil for the system. The oil is fed through the plastic hose to the pipe line. The level of oil in the pipe line is controlled by moving the jug up or down. The gauge on the other end should show oil to the halfway point. The feed pipe fits perfectly into a Reading guide-rod bracket, which has a space the same size as the pipe. But a notch has to be cut out of the bracket. The system works equally well on Kalio and Reading machines.

improperly set carriers, narrowing trouble, improperly adjusted friction, too-oily brake bands, and improperly set shock absorbers. All these things must be checked and supervised if press-offs are to be minimized.

### How To Make the System

Make the applicator from the description given under the drawing. The felt strip absorbs oil in the pipe and holds the oil for the yarn to pick up. The nylon covering protects the felt from the cutting action of the yarn and allows the yarn to pick up adequate oil from the felt. The aluminum piece holds the unit straight up and tight in the pipe slot. This construction of the applicator assures an even drag on all heads.

To make the pipe line for a 30-section machine, you need 47 ft. of 1-in. black or galvanized pipe or 1-in. rigid conduit. The usual length for pipe is 21 ft., so you need two full lengths and a 5-ft. piece. The pipe is coupled on top of the yarn boxes, with 4 in. of pipe extending beyond the end of the machine that is to be used for the oil supply. With a center punch and hammer, mark the pipe on top directly in line with the porcelain eye leading into the yarn box. You should have 30 marks for the 30-section machine. Take the pipes apart for the milling operation.

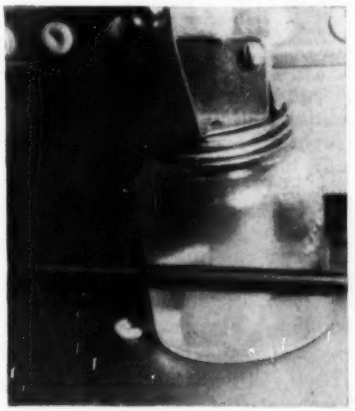
### Cut Out Slots

At the center marks, cut out 15/16x2-in. slots on a milling machine. The slots will securely hold the applicators. With a putty knife, force each applicator into its slot until the end of the applicator rests on the bottom of the pipe. A vise is helpful for this job.

Place the pipes back on the machine and run them through the guide-rod brackets. Be sure to use pipe compound this time. (Compound isn't necessary when the pipes are put together to make the punch marks.)

The end pieces are made from ordinary 1-in. pipe caps. For the hose connection, drill a ½-in. hole in the top and weld a ½-in. pipe 3 in. long into the hole. For the oil gauge, drill a ¾-in. hole in the top of the other cap, and ream out an ordinary washer to the same size. Cut a piece of clear plastic to fit over the end of the cap and make a paper gasket to use between the plastic and the cap. Drill holes for 3 3/32-in. screws. Three screws should be enough.

A porcelain eye can be mounted on the guide rods with adhesive cement to direct the yarn over the applicator.



THE OLD SYSTEM used for applying oil had individual jars and an uncovered piece of felt. The jars had to be filled twice a week. The method had two weaknesses that caused excessive drag and press-offs: (1) the yarn would cut a groove into the felt, and (2) the uncovered felt would put too much oil on the yarn.

### Use Water Jug for Oil

A water jug is mounted on the end of the machine to hold the oil supply for the system. The jug will hold about a 20-mo. supply of oil. The oil is fed from the jug through a piece of plastic hose to the pipe line. The level of oil in the pipe line is controlled by moving the jug up or down. The pipe line should be kept half filled. The oil level can be seen through the plastic end cap.

To make the system secure, drill a ¼-in. hole through the two end gallows and the pipe thread, and put a ¼-in. stove bolt in each gallow. This attachment will keep the pipe from turning.

The system works equally well on Kalio and Reading machines. The feed pipe fits perfectly into the Reading guide-rod bracket, which has a space the same size as the pipe. On the Reading machine, a notch has to be cut out of the bracket.

*For successful application of resins to spun rayons—*

- Don't let wet heavy rayons lie around in trucks. Avoid crack marks by rolling goods
- Don't leave curing conditions to chance; determine your optimum conditions, and abide by them
- Don't ignore soaping and rinsing after curing. Residual alkali has caused many rejects because of bad odor

# How To Apply Resins To SPUN RAYONS

**▶ Resins have been a boon to spun rayons. Such fabric characteristics as stability, resilience, water resistance, and wrinkle resistance are improved by urea-formaldehyde and other resins.**

**By A. C. TATE**

UREA-FORMALDEHYDE RESINS in various forms have made spun rayon competitive with cotton for many uses. On viscose, these resins enter into cross-bonding with the molecules of the fiber under certain conditions, and this effect contributes to shrinkage control. In addition, resins provide resiliency and reduce the tendency of viscose to absorb water. A more desirable garment for damp or humid weather results. Wrinkling is also reduced materially.

## Step 1

### How To Handle Goods

The goods are laid out in the conventional manner by dye lots and identified for future reference through the mill. Singeing and desizing is the first actual process, and practically all styles are so treated. Loose fiber near the surface has to be removed if the goods are to look smooth and have well-defined twill lines in the finished state. If the fabric is to be napped, singeing is usually omitted.

The desizing material is introduced in the quench box of the singer to save an extra operation. Most spuns are woven with starch or dextrine sizing materials, and it is most important that these sizes be removed prior to dyeing.

Fabrics of light weight (2 yd. per lb. and lighter) may be safely swung off into a box after the singeing and desizing and allowed to remain 2 to 3 hr. before boiling off. Heavier goods (1.65 to 1.50 yd. per lb.) must be rolled at this point or serious trouble from crack marks will result. The goods are far from soft or pliable at this stage, and the yarns may be shifted permanently if the fabric is left warm, wet, and in a crumpled condition for any length of time.

## Step 2

### Dyeing

The next step is determined largely by the dyeing method to be employed, since both viscose and viscose-acetate blends can be boiled off by similar method. The inclusion of nylon, Dacron, Orlon, etc., does not affect normal scouring procedures.

For vat shades, the desized goods are run down a Hinneken-type boil-off machine in the open width, suspended in festoons on stainless-steel rods in a liquor containing a mild alkali and a synthetic detergent at a temperature of 200° F.

Depending on the style, shade, and type of dyes to be used, this same process is used for selected colors on viscose-acetate blends or after-treated directs on all-viscose types. In some cases, however, the goods are often loaded wet directly into the dye becks.

#### Boil-Off and Scour

Boiling off and the initial stages of dyeing are carried on simultaneously. An exception would be where the particular fabric and shade had shown from past experience that a better job could be obtained by boiling off, drying, and applying the bulk of the color to the goods by means of a dye pad.

Goods going into vat shades applied on a continuous machine must be well boiled off and dried before dyeing. In some plants a second scouring is given goods to be vat-dyed. The second scour comes immediately after the first boil-off and is often done in rope form through a Rodney Hunt-type machine equipped with squeeze rolls that enhance the action.

This kind of scouring is often set up in a range of three or four ma-

chines, the first two charged with soap or a detergent plus an alkali such as soda ash or TSPP. The balance of the range is used for rinsing.

### Starch Residues

Since all the synthetics are free from natural impurities, preparation for dyeing is relatively easy. Nominal chemical costs and minimum labor and time are involved.

However, a good "bottom" is absolutely essential. In cases where only a very sketchy preparation is allowed, starch residues will persist throughout the dyeing operation, giving rise to resists and unlevel dyeing. Such starch residues will materially affect the final finish, even though they have not given apparent trouble in dyeing.

In the case of vat-dyed viscose, the finisher is ready to perform his function immediately after drying the goods.

In the case of aftertreated directs, the fabric should be examined carefully prior to finishing, since any unlevelness or streaks will become permanently fixed in the goods during the finishing process. Such marks are almost impossible to remove by stripping and redyeing. Recently developed copper-resin aftertreating compounds are more easily removed, but it is still a good policy to see that the goods to be finished are in acceptable condition.

## *Step 3*

## Applying the Resin

Finishing with urea-formaldehyde resins breaks down into application, curing, washing, drying, and final finishing operations, which often include compressive shrinkage. This type of finishing is a fairly complex operation compared with cotton finishing of the usual starch-and-oil type or of some classes of rayons and acetates that go into dress goods or linings.

It is important that each step be controlled closely since a great change is being made in the structure of the viscose molecule that is relatively permanent.

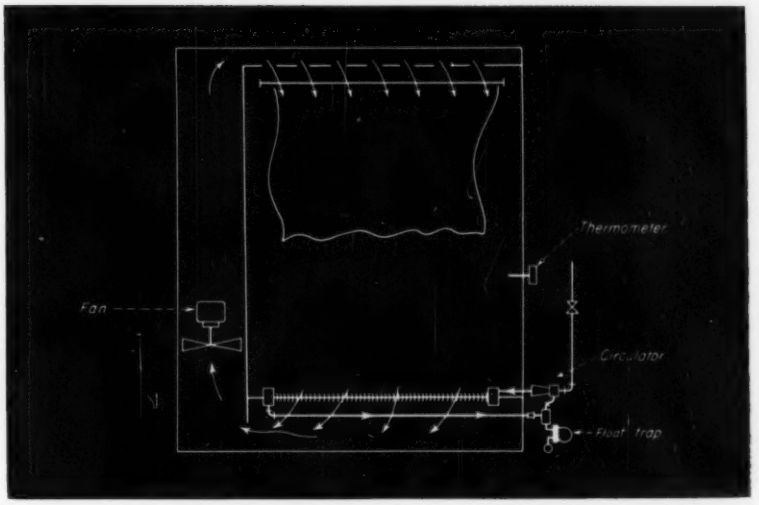
For practical purposes, the acetate content of a fabric is not considered a factor in the absorption of the resin, since the acetate does not absorb significant amounts of U-F resins.

With our fabric dyed and in good condition, we can now get to the application of the resin.

### Equipment Used—Pad

Choice of proper equipment is important. Current practice is to use a

(*Continued on page 230*)




**THE STEAM-CIRCULATING SYSTEM operates between the steam stop valve and the heating unit on the piece dryer. The circulator has an injector that accelerates the steam and condensate and creates a turbulent flow in the heating unit to improve the heat transfer. The steam that survives the trip through the heater is returned to the circulator, and the condensate is captured by the float trap.**

# *New Era Dries More for Less With a* STEAM-CIRCULATING SYSTEM

**▶ Twelve Sarco steam-circulating systems replaced 12 bucket-type steam traps on a dryer at New Era Dyeing and Finishing Co. The air temperature is reported to have increased from 240 to 290° F., and the steam pressure reduced from 125 to 90 psi.**

ON A PIECE DRYER, the New Era Dyeing and Finishing Co., Patterson, N. J., converted 12 horizontal-heater batteries from bucket-type steam traps to Sarco steam-circulation systems. New Era reports:

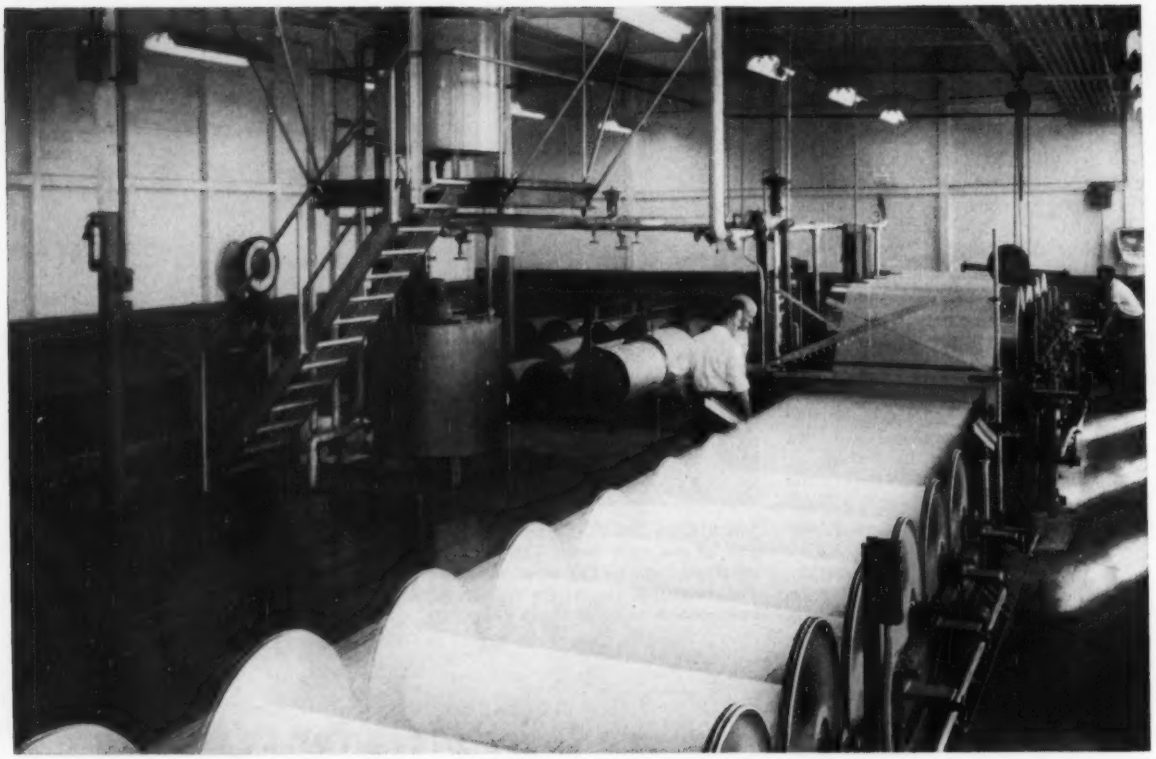
"The air temperature in the 12 horizontal-heater batteries has increased from 240 to 290° F., with a reduction of steam pressure from 125 to 90 psi. The dyed materials are now uniformly dried in less time, labor costs are lower, and steam consumption is lower."

The system accelerates the flow of steam and condensate in the steam spaces of the horizontal tubular-heating surfaces. On this kind of surface the flow of condensate to the steam trap is usually sluggish, and this condition results in slow heat transfer and poor efficiency that is not the fault of the steam trap.

The steam-circulating system at New Era consists of a float trap and injector circulator. The injector uses the uncondensed steam to induce turbulence in the flow of condensate, and this type of flow improved the heat transfer and increased production with a saving of steam.

The heat from the steam must pass through the condensate and air before it can pass through the metal surface, and the air and condensate retard the transfer of heat because they are poor conductors of heat.

By breaking up the film of condensate with turbulence created by the injector, the new system improved heat transfer. Heat transfer was also improved by the increase in condensate-flow velocity produced by the circulator; and steam pressure was reduced as a result of the increase in velocity.



# SLASHING PROBLEMS Discussed At Georgia TOE

**Representatives from 14 Georgia Mills discussed nine current problems in slashing at the fall meeting of the Textile Operating Executives of Georgia, held at Georgia Tech recently. The solutions to each problem are boiled down in this article to the one or two methods that give the best results to most mills.**

### Good Slashing Methods Start With Cleaning

Georgia slasher men all agree that the cleanliness of the slasher is the first step in sizing warps that run well on the loom.

Mill A says:

"When the slashers are stopped for the week end, we clean the hoods with a broom and hand brush, blow off the slasher with an air hose, wipe it with waste, and mop the floor underneath.

"During the work week, we mop under the front of the slasher twice each shift and mop under the creel at the runout.

"Cooking kettles are cleaned after each batch of size is cooked. The kettle is drained, rinsed with a water hose, and scraped and boiled out if necessary. It's seldom necessary to scrape and boil the kettles if they're cleaned after each batch of size is cooked.

"We have three storage kettles: two of them are used while the third is being cleaned. All kettles are cleaned twice each shift. They are drained, washed with a water hose, and the coils are scraped. The coils are covered with clear water and boiled for 15 min.; then they're rinsed again with the water hose.

"During the week end, all cooking and storage kettles are boiled with soda ash, which is circulated through the size lines.

"The size boxes are drained and boiled with clear water at the end of each set.

"The yarns on adjoining slashers are protected from flying lint during cleaning periods because an air hose is used only on week ends."

Mill B follows this general cleaning schedule once each week:

1. Blow out the flues.
2. Blow off and mop the hoods, slasher frames, and cylinder ends.
3. Boil out the size box, cooking kettles, and storage kettles.

The back men blow the sides of the slashers down and sweep the floors once each shift.

The rib rolls are cleaned, the head end of the slasher is blown off, and the floors are swept between sets.

Mill C does not use hoods. Cooking and storage kettles are cleaned with caustic soda every seven days. The size boxes are boiled out each day, and caked size is removed.

The creel and the head end of the slasher are cleaned with a broom when sets run out.

The cleaning schedule (shown at the top of next page) is followed at the end of every 10 wk.

### Squeeze-Roll Maintenance Is an Everyday Job

One mill was not concerned with rust that forms on squeeze rolls. It

finds that rust is removed easily and takes no precautions to prevent rust forming.

Seven mills use white lead on their squeeze rolls to prevent rust. The best and most common method of applying white lead is:

1. Remove all rust from the roll. Emery cloth will usually do the job; if it doesn't, tool the squeeze roll down in a lathe.

2. Paint the roll with white lead and let it dry. Then put on a second coat of white lead.

3. While the second coat of white lead is still wet, start a 4-yd. length of cotton sheeting (full width of the roll) around the roll and paint the cloth with white lead as it is wound around the roll. Leave the lead off the last 12 in. of the cloth so that the end can be used for a lap for the blanket if a blanket is used. If yarns are used to cover the roll, all the cotton sheeting is cemented with white lead.

One mill metallized rolls with stainless steel. Another mill installed brass rolls. A third mill uses a squeeze roll covered with a brass shell that is held with solder on the ends.

Six of eight mills that reported on their squeeze-roll covering use yarn-wound rolls. The other two mills use wool blanket cloth.

Typical coverings of yarn are:

Mill A—Four complete rounds of eight ends of 14s cotton yarn cover the jute. One complete round of two ends of 6s all-wool yarn and two ends of 14s cotton cover the three rounds of cotton. One complete round of two ends of 14s finishes the roll covering.

Every 12 hr. another covering of one wool end and one cotton end is added, and there is a final wrap of one round of two cotton ends.

The covering is built up to the top of the roll flanges, which are of 10⅜-in. dia.

Up to 2,678 ends of 23s cotton yarns are slashed on these squeeze rolls at 75 yd. per min.

The original roll covering costs $7.25 per roll, and the daily cost for three-shift operation is $1.70 per roll.

Mill B—One round of six-ply jute (wet) is added to the metal squeeze roll and is followed by three rounds of two-ply jute. Eight ends of 14s cotton yarn cover the jute three times. Two ends of wool and two ends of 14s cotton cover the cotton once. The top layer is one round of two ends of 14s cotton.

Every 24 hr. one round of two ends of wool and two ends of 14s cotton are added to the roll covering.

The yarn covering is cut off and replaced every 90 days.

**Cleaning Schedule for Slasher**

(Every 10 wk.)

| Item | Method | Equipment |
|---|---|---|
| Creel | Scrub and clean | Mineral spirits, brush, and cloth |
| Mushing rolls | Clean | Water and cloth |
| Dry can | Clean | Water and cloth |
| Size box | Clean | Water and brush |
| Size-box roll bearing | Wash, lubricate | Mineral spirits and grease |
| Cylinder | Wash | Water and cloth |
| Gearing and pulleys | Wash | Mineral spirits |
| Main drives | Clean and grease | Mineral spirits and air hose |

Warps of 2,750 ends of 14s cotton are slashed at 48 yd. per min.

Yarn-wound rolls are equal in performance to blanket-covered rolls, and the maintenance cost of the yarn-type covering is 33% lower than the blanket type.

## Synthetic Rolls Wear Well

Three of the six mills that talked about delivery rolls like synthetic-rubber-covered rolls because they require little attention. The synthetic rolls do not swell or blister in these mills. The rolls have been run for 3 yr. without being buffed in one of these plants.

At another plant, the rolls are buffed on an average of each 6 mo. Cotton yarns of 23s and 23s are run in warps of 450 to 2,678 ends.

One mill reported that it had not tried synthetic-rubber rolls because it started using cork-covered rolls a long time ago and found them so satisfactory that it does not wish to change.

The cork-covered rolls are used to slash yarns from 54-in. section beams placed on 100-in. loom beams. This mill slashes 6s to 34s cotton yarns in warps of 3,000 to 8,700 ends.

A mill that spins 8s to 20s cotton yarns that go into warps of 450 to 2,400 ends has trouble with swelling and blistering on synthetic-rubber covered-rolls.

**THE SLASHING DISCUSSION** was lead by George McMillan, superintendent, Crystal Springs Bleachery, Chickamauga. Mr. McMillan was also reelected to the executive committee of the association.

## Homogenizers Get Good Report

Four of the six mills that have had homogenizers long enough to compile data are using a Gaulin unit, and the other two mills have Hydropulse homogenizers.

All of the Gaulin users report that less starch per gallon is being used and that size content is uniformly maintained in the warp. One of the Hydropulse users is saving 13% on starch, but the other mill made no starch saving. The highest yarn number reported sized by Gaulin users was 28s, by Hydropulse users 17s. One mill is slashing 5,800 ends with Gaulin-homogenized size, and another mill has 6,300 ends in a Hydropulse-slashed warp.

Is shedding increased? Two of the four Gaulin users say "Yes," but the other two mills report no increase. But one out of the two Hydropulse users reported a decrease in shedding.

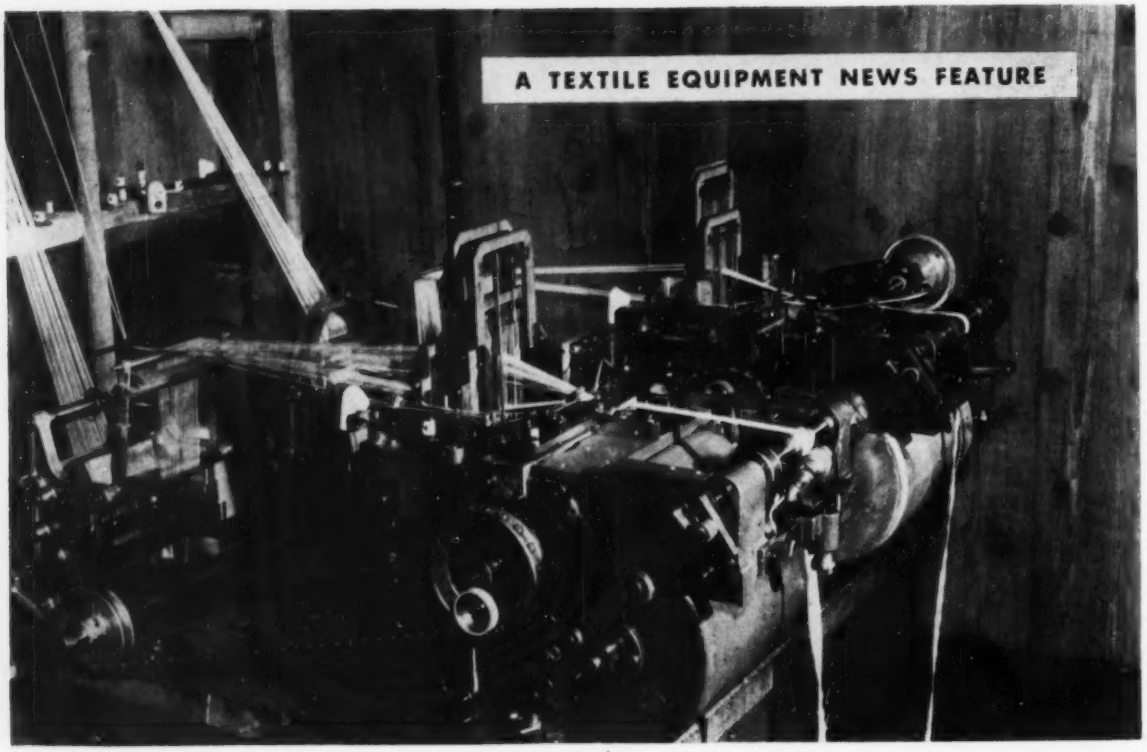
Size content is just as uniform as before, according to the Gaulin users, but the Hydropulse users believe that their size content is more uniform now.

Gaulin users report that maintenance costs are low. (One mill estimated $0.65 per month per machine.) Valves are cleaned and checked daily, and the strainer is cleaned once each shift. Oil is changed every 6 mo.

Hydropulse users disagree; one mill says that maintenance is low, and the other claims that maintenance costs are high but has no records to substantiate the claim.

A majority of the homogenizer users reported that size pickup is the same with homogenized size if viscosity is

(*Continued on page 198*)




# Shuttleless Narrow-Fabric Loom Weaves 2,000 Ppm.

SMOOTH RUNNING and high speed are features of the new Disco loom. Gustav Ulrich, loom specialist (left), and Joseph Portello (loomfixer), discuss the positioning of warp ends to prevent chafing at high speeds while Gustav Zellnik, consulting editor of TEXTILE WORLD (right) looks on.

▶ Disco Industries, Inc., of New York has developed a fast-weaving narrow-fabric filling motion in which a needle with an eye in it transports a single end of filling back and forth rapidly through sheds up to 4 in. wide. Each shed has two picks in it.

▶ Far-end selvage is formed by means of a latch needle, positioned parallel to the selvage and attached to an eccentric motion. Both the filling and an extra locking end from the creel pass over the needle in a circular motion to form a loop selvage.

▶ Production of single-head units is expected up to 500 yd. per day. Six-head looms will be available to mills soon on a royalty basis.

By RICHARD C. SCOTT
New York Editor, TEXTILE WORLD

WHAT APPEARS TO BE a significant narrow-fabric loom has been developed by Disco Industries, Inc., 443 Greenwich St., New York, N. Y. The loom can weave ribbons and tapes of any fiber or yarn up to 4 in. wide at a rate of 2,000 ppm.—or about 10 times as fast as ordinary narrow-fabric looms.

The weaving principles used are the same as on any other type of loom except for the filling-insertion needle and far-end selvage-locking needle and motion that are the secret of the new loom's high speed. Single-head units are the only type made at the time of this writing.

The loom, sturdy for its small size, has a standard creel, a mechanical stop motion for both warp- and filling-yarn breaks, a positive cam-driven harness motion (up to eight harnesses), a small, flexible, open-blade reed, and two positively driven knurled front rolls (through which the woven tape is pulled). Three change gears can vary the picks per inch from 8 to 128.

### How Picks Are Laid In

The filling supply is brought from a cone in the creel, through the stop-motion device and disk-tension device, through the eye of a light extensible spring (to keep the filling from going slack on the return pick), and through the eye of the pick-inserting needle.

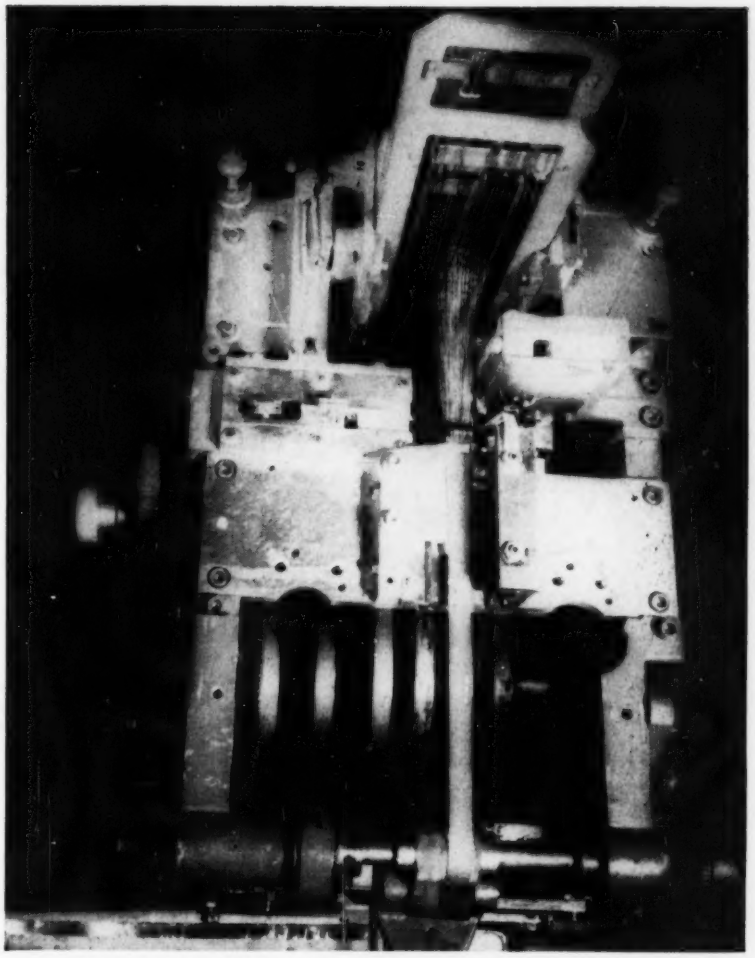
At the other side of the head a conventional latch needle is mounted parallel to the selvage and pointing toward the creel at the back of the loom. A single locking end of yarn from an extra cone in the creel passes through the stop-motion and disk-tensioning devices and is held in a position in which it can be engaged by the latch needle.

The filling-inserting needle passes through the shed and places the pick in the path of the opened hook of the latch needle. At the same time, by an eccentric motion the locking yarn is brought partially around the latch needle and into the open hook. The latch needle then recedes toward the front of the loom, and the latch is closed by the preceding loops. The two yarns on the hook are pulled through the preceding loops formed by the previous pick around the shaft of the latch needle.

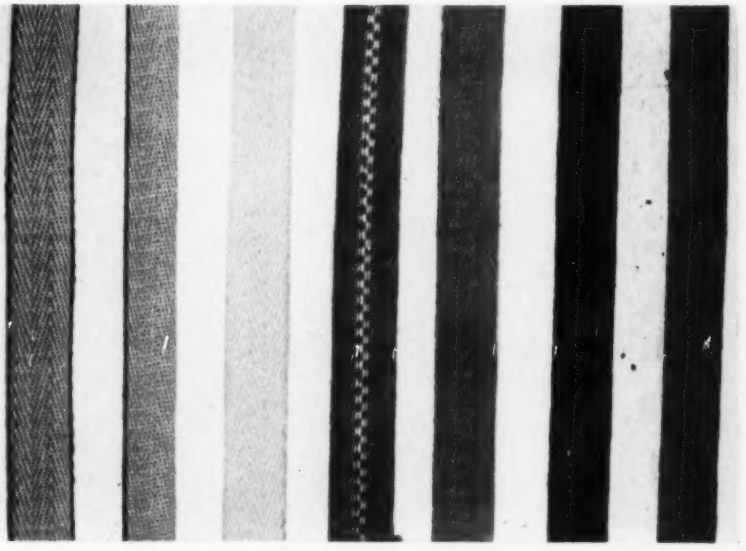
As soon as the latch needle has cast off the latest stitch of the two looped yarns, it moves back into position to receive the next pick. In so moving, the needle causes the yarns in the hook to open the latch and slide down the needle shaft, ready for the next pick and locking-yarn loop.

A dobby attachment for double-

(*Continued on page 196*)



**LOOKING DOWN** on the loom from above, the viewer sees the harness, the spread of the warp ends as they converge into the reed blades, the withdrawn needle with the filling running loose through its eye, and the latch needle adjacent to the right-hand selvage.



**SAMPLES** of tape designs that can be woven on the Disco loom.

WHEN YOU OVERHAUL your precision let-off, use a special jack to release the beam, then remove let-off from loom.

TAKE THE LET-OFF APART to clean and inspect the parts. That's the only way you can tell what's worn. Any part that shows wear should be discarded and replaced with a new one.

# How You Can Reduce Seconds Caused by BARRÉ CLOTH

**▶ The let-off causes more barre cloth than any other loom motion. That's the result of lack of basic knowledge of how to maintain and set the let-off assembly. A precision let-off on C&K looms will make barre-free cloth if you—**

**—Inspect and remove worn parts**

**—Keep the grease at the right level**

**—Adjust the driving mechanism to close tolerances**

**—Regulate the warp tension daily**

**By RICHARD B. PRESSLEY,** Assistant Editor, TEXTILE WORLD

A PRECISION LET-OFF can't make barré cloth if it's in good mechanical condition and set right. Also, if the let-off is properly maintained, set marks won't occur so often.

You have to tear the let-off assembly completely down to check the parts for wear; you can't tell by looking at the housing.

Trouble with the let-off may start with any of the four major parts:

1. Most of the trouble starts and ends in the worm-shaft assembly. The bushing for the worm shaft wears rapidly. That's good; it costs only $0.20. The fiber washer on the worm shaft wears fast, too; there's another $0.22. You can often correct a faulty let-off if you replace these two parts.

The worm ($4.07) wears after a few years of operation. It wears faster on heavy weaves than on light ones, and so does the complete let-off. Excessive warp tension also wears the worm prematurely. A lot of set marks are caused by a worn worm.

The worm shaft ($4.22) wears faster than the worm. If you catch your let-offs before your loomfixers polish the shafts to make them fit the bushing, you can make the shafts last twice as long. The $0.20 bushing can be reamed to fit the $4.22 shaft.

The ratchet (pressed on the worm shaft) and the ratchet pinion gear wear very little, but they're often discarded without cause. If the let-off isn't overloaded with weight, the ratchet and ratchet gear are not critical points of operation. The spring on the worm shaft ($0.05) can be replaced to add to the life of the gears.

The plunger rack ($2.12) wears on the end from being driven by the plunger lever. A worn one should be replaced to prevent let-off breakage or to prevent wear at the plunger lever and plate on the housing. The spring ($0.05) becomes compressed and distorted and, unless it is replaced, will cause wavy cloth.

2. The spindle and worm-wheel assembly isn't the source of much trouble, but it has to be inspected occasionally. If the spindle and lock nut aren't abused by being fitted with a chisel and hammer, they will wear very little.

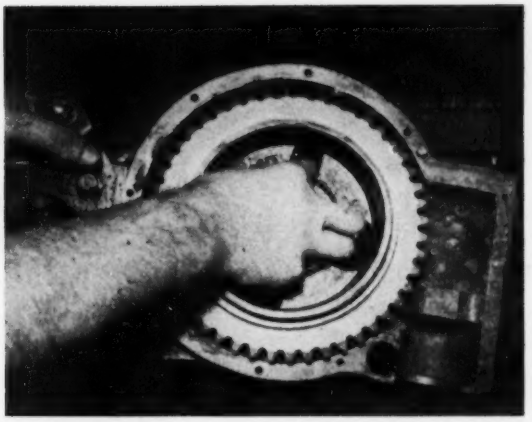
The self-aligning ball bearing on the spindle ($2.55) breaks down occasionally and causes wavy cloth. If a ball is missing, or if the inner race is worn, put in a new bearing.

The frequency of worm-wheel replacement is so low that it's hardly necessary to check it.

3. The let-off housing cracks occasionally through abuse. Sometimes a housing has to be discarded because it is worn at the worm shaft. That's about all that can happen to it.

4. The driving mechanism wears about the same amount that most loom studs and levers wear.

THESE PARTS WEAR FASTER than others and they affect the performance of the let-off. Replace them when they wear. These are o.k.



GREASE THE HOUSING and assemble the parts. Top it off with another layer of grease over the parts. The proper grease and the correct amount are very important.

The worst thing that happens is that the shaft for the arms sometimes wears an egg-shaped hole in the beam stand.

### The Grease Makes the Let-Off

After the grease runs for a long time, it becomes packed and causes the let-off to let off irregularly. When a let-off "spins" (the weights drop to the floor and a thin place is made in the cloth), the reason is insufficient and improper grease.

The proper-type grease and the correct amount of grease are more important than the mechanical condition of the let-off in weaving first-quality cloth. The size of the beam and the type of weave determine the weight of the grease to be used.

On a 19-in. beam, use a medium-bodied grease; on a 26-in. beam, use a heavy-bodied grease. If you're playing around with 30-in. beams, use a fibrous grease.

A light weave, such as voile, requires a light-bodied grease on a 26-in. beam; medium and heavy weaves use heavy grease.

Use ½ to ¾ lb. of grease to the let-off. On a heavy weave, pack in the full ¾ lb. You can put in too much, though, and the let-off won't operate.

### Recondition a Let-Off This Way

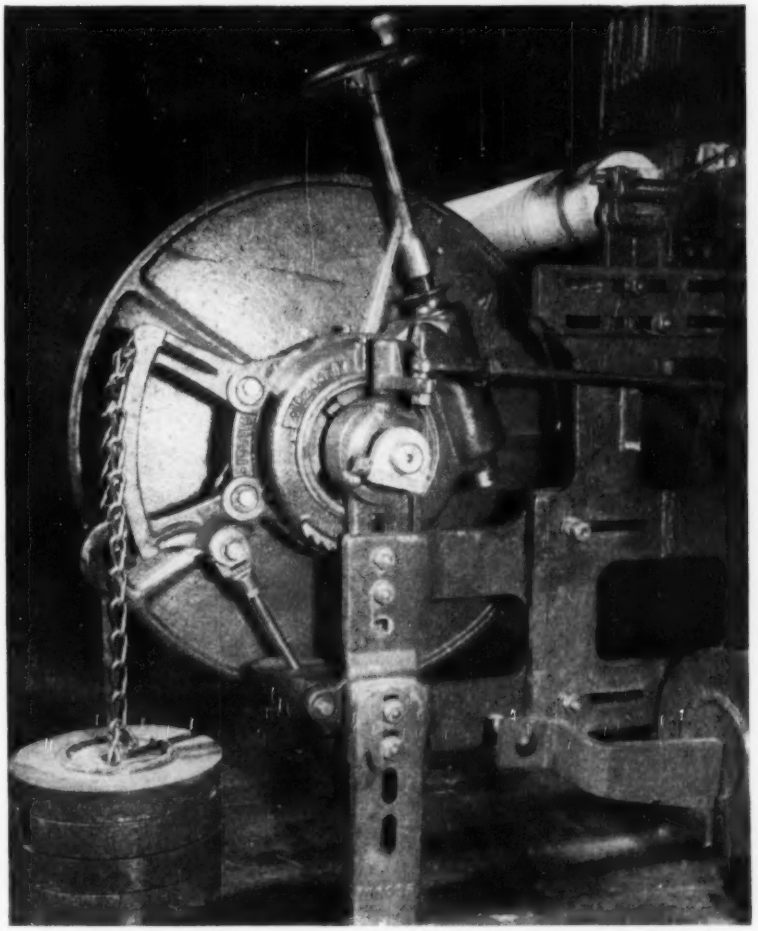
1. Place the removed let-off on a large workbench and completely disassemble it.

2. Remove all the old grease. Wash the parts in a large container of solvent and dry them thoroughly with clean rags.

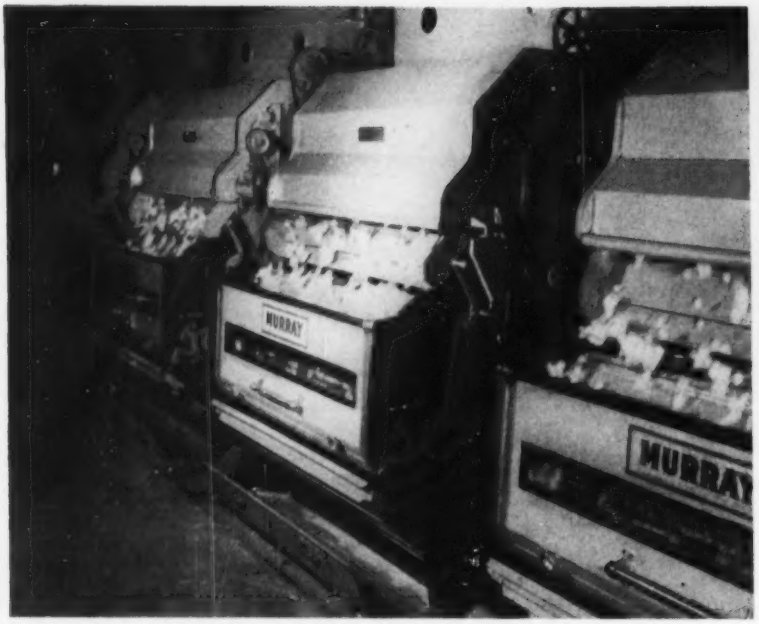
3. Inspect the parts—discard worn ones.

Place the chain segment on the

(Continued on page 216)



THE LET-OFF IS TOGETHER again. Shoot the housing with 2 oz. of grease in 2 wk. Then forget it for 1 yr.



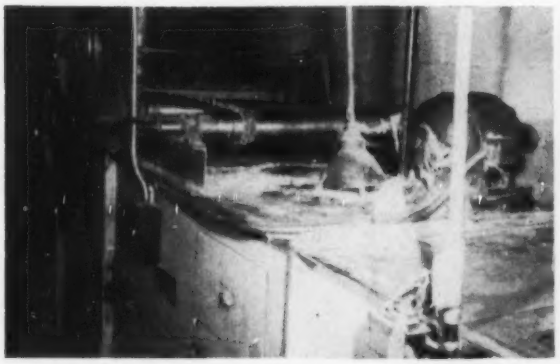

THE BEST COTTON that comes from this modern gin located next door to the opening room is selected for use in Tumble-Twist yarns. The gin and cleaner were made to the mill's specifications. Hand-picked cotton is ginned at present, but the gin is built to process cotton that is machine picked.

MOTES ARE REMOVED as the cotton passes through a Saco-Lowell vertical opener. They drop through a grating made of strap iron that replaces the sheet metal at the elbow.

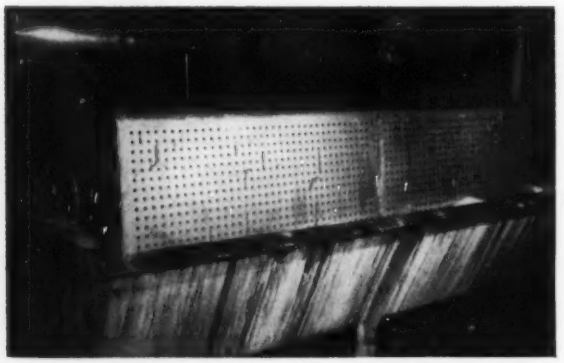
# *Machinery Changes Help Make Better* COTTON RUGS

► Here are several practical examples of what one mill has done in building its own equipment and adapting standard machinery to fit special needs in its rug-manufacturing processes. These examples can help you get more and better ideas on changing your own machinery for better results.

By **RICHARD B. PRESSLEY,** Assistant Editor, TEXTILE WORLD



JUST SHIFT THE BELT to obtain any desired processing speed within ¼ lb. per sec. on this Aldrich blender. The cone speed regulator was made from parts taken from a conventional drawing frame.



RUGS ARE DYED in machines designed by Tumble-Twist to tumble the rugs to keep the loops lively. A battery of the machines are interchangeable for dyeing and extracting.

TUMBLE-TWIST MILLS, INC., Easley, S. C., has worked out a number of ideas that make its rug-manufacturing processes somewhat different from most cotton-rug mills. From ginning most of its cotton to applying latex with a homemade cold spray, Tumble-Twist uses a number of devices it worked out itself or modifications it made to standard machinery.

This mill has to hold cotton-yarn appearance to A on its pile yarns. On rug-backing yarns, B is good enough. To hold these specifications, every yarn process is controlled for quality.

Pictures on these pages show some of the ideas Tumble-Twist uses.

### How Rugs Are Handled

The rugs are woven on K-model and W looms with the aid of patented attachments owned by Tumble-Twist. Loops vary in length from 1 in. to 1½ in. The yarns for the back of the rugs come from a full-width warp beam, and the loop yarns are mounted on creels with a cone of yarn for each warp end.

Rugs are run in rolls at the loom and are taken to the inspection room while still in rolls. Some rugs are finished in rolls and others are cut to scatter-rug sizes, inspected, and bound at the edges by a stitching machine.

Large rugs are made by taping small ones together. Room-size rugs are usually made from two lengths of rugs taped together in the center.

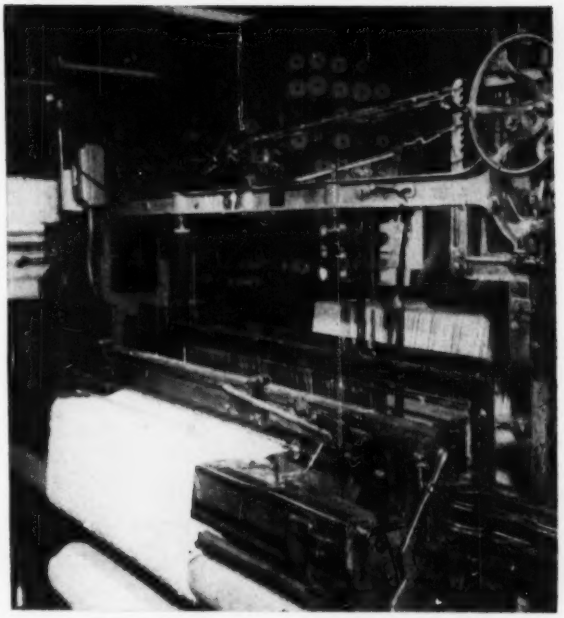
After the rugs are inspected, they are taken to the dye-room, where they are wet out and dyed. Color-control practices are very exacting. Each dye lot is sampled and checked against the original sample to be sure that the finished rugs will be matched.

After the rugs are dyed, they are softened with a chemical softener and are hot-washed to remove excess dyestuff.

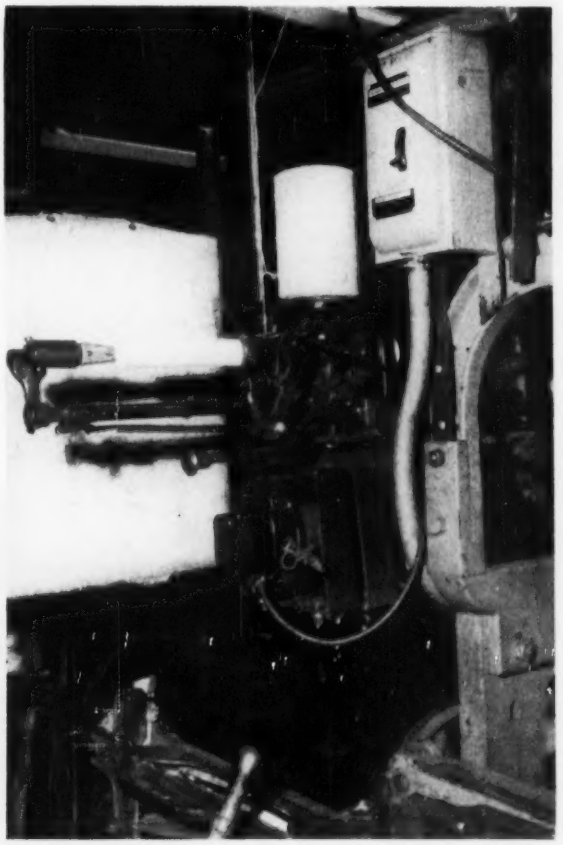
The dyed rugs are placed on racks in a heated room to dry. Then they are tumble-dried in a machine to loosen the loops. The dyed rugs are inspected again for imperfections from the dyeing process.

Dyed rugs are placed face down on a conveyor belt that carries them under an oscillating spray of liquid latex to make them skidproof when they are used on a floor. The belt moves at a slow speed so that all the area of the rug back is sprayed lightly with the latex. The latex is dried by infrared lamps while the rugs are still on the conveyor belt.

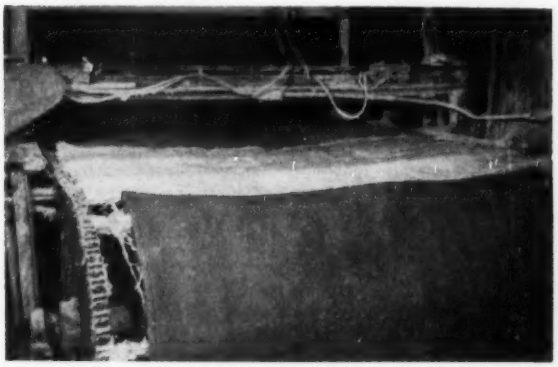
Rugs that have been sprayed are inspected again for excessive latex that penetrates the loops, and tagged according to color, size, and quality. Then they are sent to the shipping department.



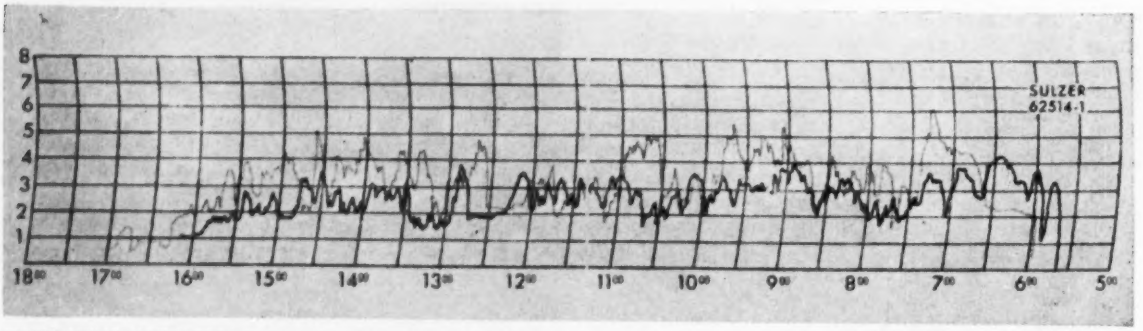
**THE LOOP IS FORMED** in the rug on the loom. Each loop is of uniform length and twists around itself six times. Dobbies on K-models and Knowles heads on W looms are used.



**EACH WEAVER WINDS** his own filling on Lazenby units taken from regular winding machines. The units are placed on the looms, and each unit is driven by an individual motor.

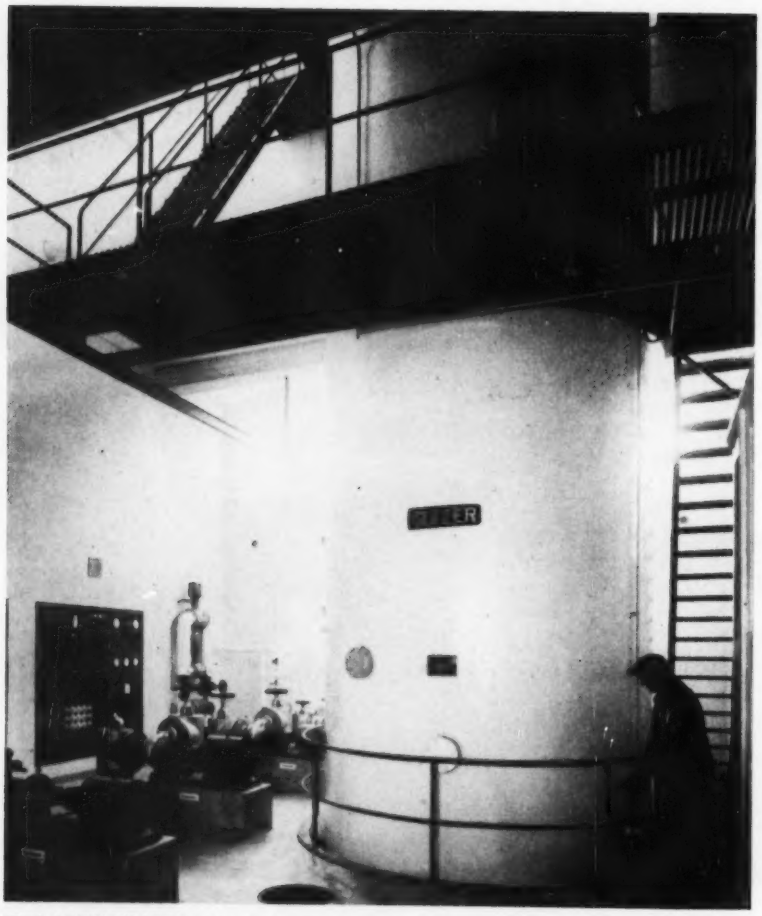


**THE LATEXING MACHINE** is so efficient that it has to be operated only a few hours each day to keep up with the other processes. One man operates the machine easily.




CIRCULATING HOT WATER under pressure is uniform throughout a winter day. The heavy line shows the pressure system's uniform day's reading versus the light line that is recorded by steam heating.

# Check Your HEATING System— It May Need Revamping



THIS ACCUMULATOR is installed in a spinning plant in connection with a hot-water-pressure system. The accumulator stores hot water that is heated during slack periods.

▶ **The heating systems of many mills are obsolete. This article tells how to survey and modernize your heating plant. You can—**

- **Use many parts of your old system**
- **Be sure of continuous uniform heat**
- **Economize on coal or fuel oil**

**By W. SENNHAUSER**

FUEL COSTS have been reduced in many plants by the use of a circulating-hot-water heating system instead of a steam system. The hot-water system is a closed circuit, and the water can be heated well above the boiling point. Since the water never comes in contact with air, little heat is lost.

The system, in its simplest form, consists of a central station where water is heated under pressure to the controlled temperature and pumped through the system of pipes. Additional equipment—such as heat accumulators, heat pumps for air-conditioning systems, and diesel power generators—may be tied into the hot-water system for special purposes.

In comparison with steam systems, the circulating-hot-water system offers several advantages:

1. The hot water flows to the points of heat consumption at a uniform temperature.

2. The temperature of the water may be varied almost without limit.

3. The accumulating capacity of the hot water in the equipment levels out the load on the heating plant.

4. Plant operation is simplified and fuels are saved.

The addition of a circulating-hot-water system may make it possible to avoid expanding a boiler plant that has become obsolete. For example, a textile plant contained one large and one small flue boiler. Both boilers were heavily overloaded in the winter.

One survey of the equipment showed that the small boiler should be replaced with a larger one. Another survey was made, and the recommendation was advanced to convert the uneconomical steam-heating equipment to a circulating-hot-water system.

A centralized hot-water system was erected; then the larger boiler supplied enough heat for the winter. Since the small boiler was eliminated, the heating costs were reduced one-fourth.

### Accumulators Level Out Peaks

Hot-water accumulators may be used to advantage in connection with circulating-hot-water systems. The principal use of the accumulator is to store hot water that is produced at night, on the week end, and during other slack periods. The hot water may be used later when peak heating loads are required.

Accumulators are valuable to supply the heat for air-conditioning installations in weaving and spinning plants. The drop in the room temperature during the night often calls for a greater amount of heat than is normally used to heat a room. An accumulator will supply the necessary heat without overloading the boiler.

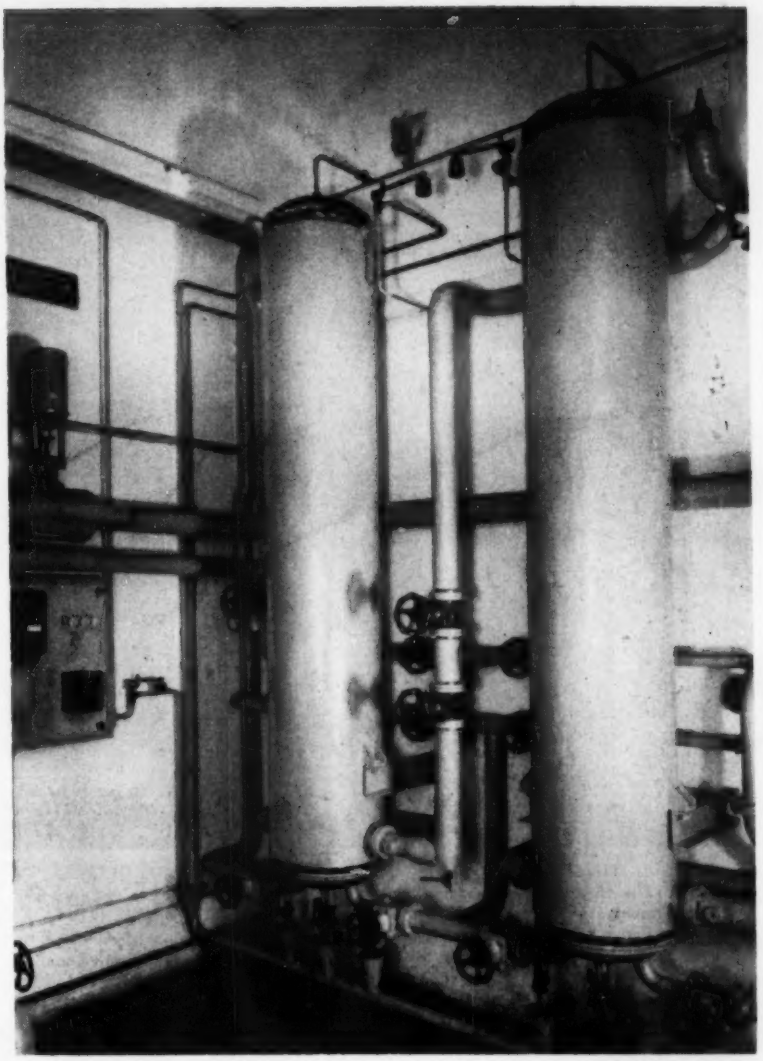
Heat exchangers may be used in connection with an accumulator to recover heat from waste hot water and used dye liquor. The dye liquor is collected in a well and is pumped to the heat exchangers. The dye-liquor heat is given up to the water that circulates in the accumulator, and the dye liquor is then led off.

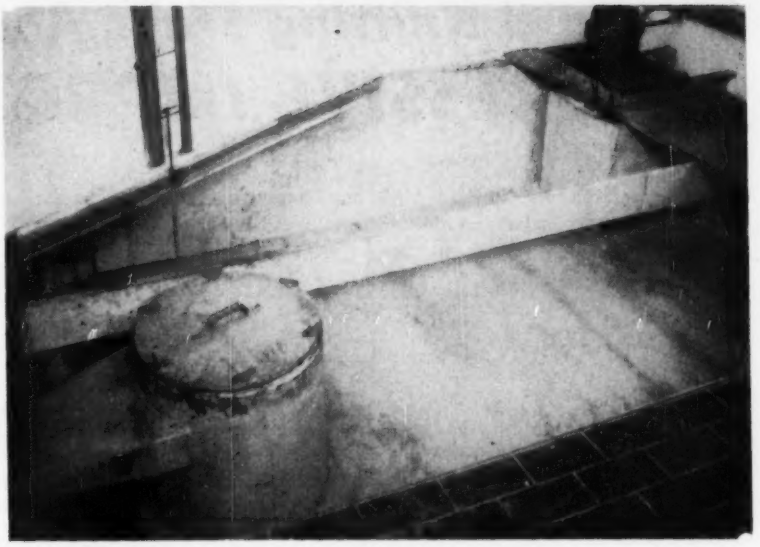
A heat-exchanger installation in a dye plant is an example of the economical application of dye-liquor-heat recovery. The exchanger, supplemented with a water heater, supplied the plant with 300,000 cu. ft. of water at 60 to 70° C. per yr. The waste heat accounted for two-thirds of the total heating performance—which meant a saving of 23 tons of boiler oil per year.

### Heat Pumps May Be Economical

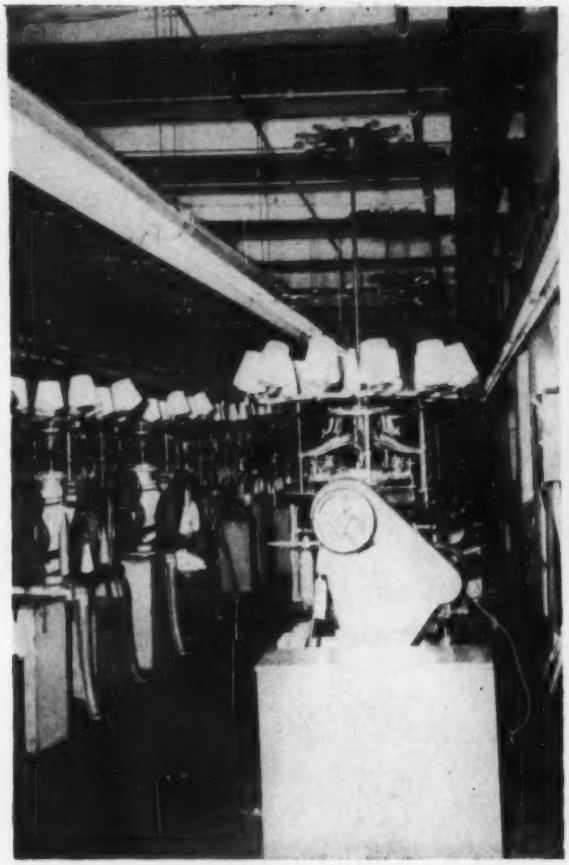
Heat pumps, though expensive, may

(*Continued on page 246*)

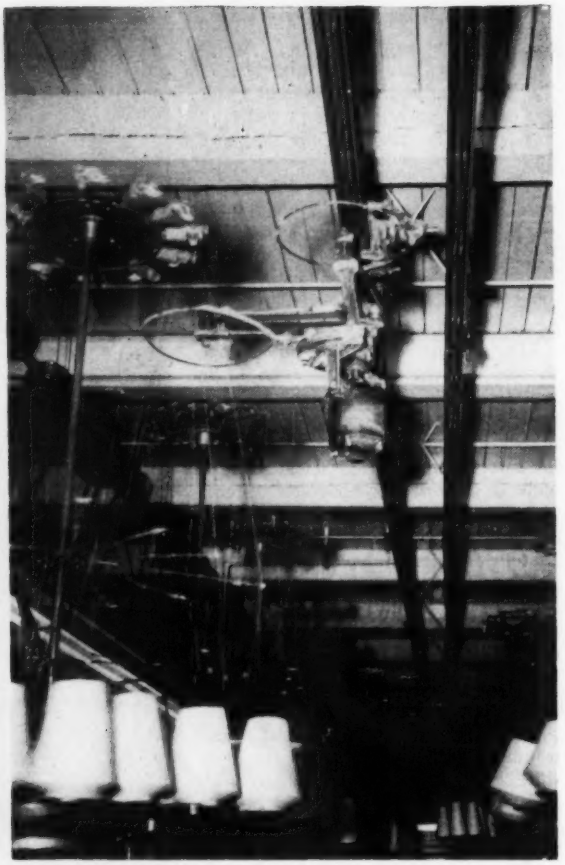




**HEAT EXCHANGERS** (top) absorb the heat from the hot used dye liquor in the well. The pump in the well moves the water into the exchangers. The cooled dye liquor is drained off.



**CONTINUOUS FLUORESCENT FIXTURES** run down the center of each aisle. The fixtures have two tubes for downlighting and a single tube mounted on top for lighting the tension guides and stop motion. The fixture along the side wall has a single tube that lights this back area, which is dark in many mills.



**THIS OVERHEAD CLEANER** helps to keep fly and lint from the top of the machines and from tagging to the ceiling. The cleaner has separate fans for up and down cleaning. The track winds its way throughout the knitting room, and sections can be seen in some of the other pictures.

# *Standard Knitting Stays Ahead With* PROGRESSIVE IMPROVEMENTS

**► Here's how Standard Knitting Mills has improved its efficiency. Factors include humidity control, good lighting, good ventilation, lint control, and convenient yarn supply and fabric removal.**

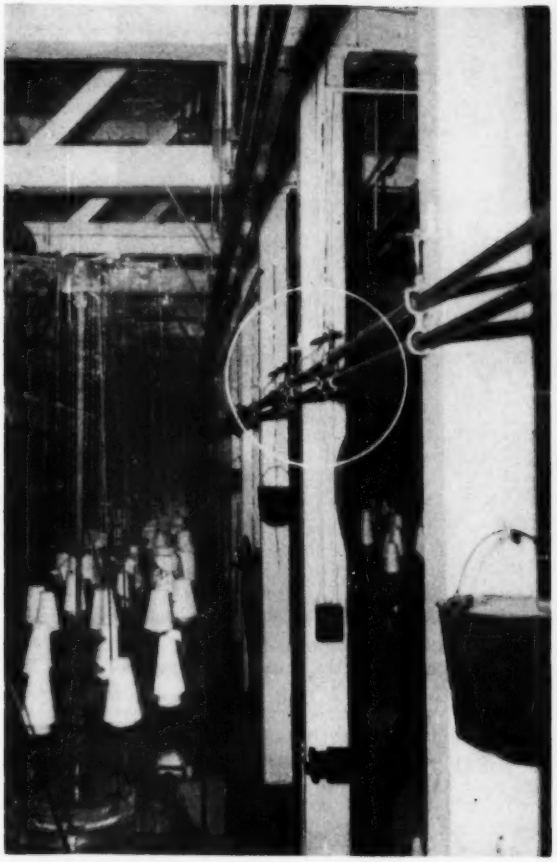
**By E. DALTON WHITE,** McGraw-Hill Atlanta Bureau

KNITTING-ROOM EFFICIENCY has been increased at Standard Knitting Mills, Inc., Knoxville, Tenn., by improvement of the physical conditions in the knitting room and by the development or adoption of a few simple methods and devices.

The mill has about 400 tubular machines, arranged in six aisles, that produce fabric for men's and boys' cotton ribbed underwear, polo shirts, and sport shirts. It also has a special section of large-size Brinton machines that knit terry cloth and fabric for sweat shirts. The garments are manufactured at this plant.

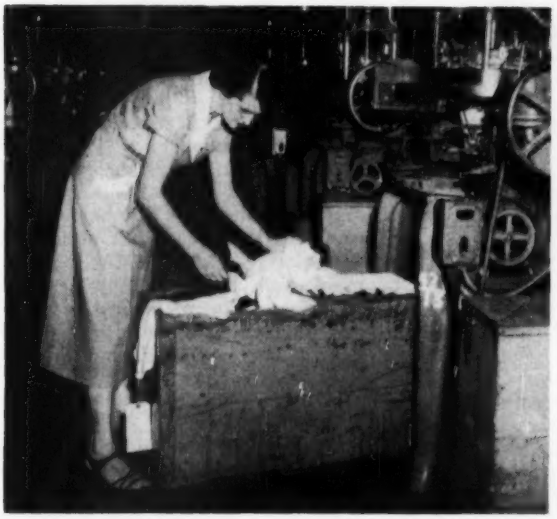
The knitting room is a wing of the main building at Standard, and windows on three sides provide ventilation and natural light. Four large exhaust fans mounted in the side of the skylight keep the air circulating.

The story at Standard is told in the pictures.



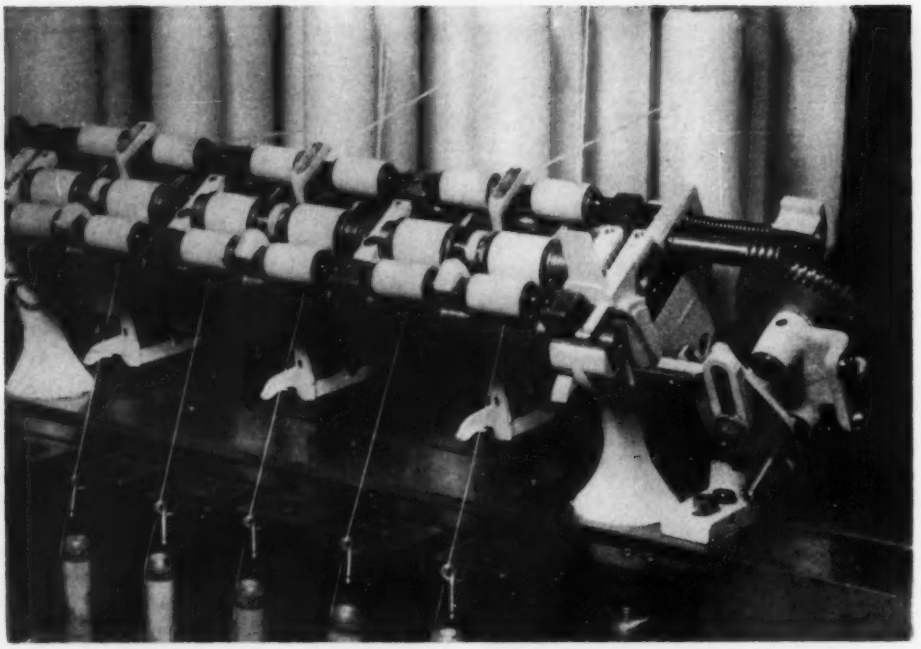
**A HUMIDIFYING SYSTEM** maintains the relative humidity at about 60%, preferred by Standard for keeping the yarn pliable and in good knitting condition. This humidifying system, together with the overhead cleaner, has aided in keeping the knitting room free of lint and fly.

**THIS YARN BOX** holds 16 cones, which allows two sets for the eight-feed machine. The box has a wooden frame and is lined with sheet metal. The yarn carrier brings in the cones on a truck. The empty cones are placed on a rack at the back of the room and are removed after the third shift.



**A CLOTH CARRIER** removes a cut of cloth from the machine. The box is mounted on casters and rolls easily under the machine. A counter indicates when the proper length is knitted, and a cut-off stops the machine. Length varies from 140 yd. for heavyweight to 20 yd. for lightweight fabric.

**DEFECTIVE-KNITTING RECORDS** are posted on this bulletin board. The knitter is checking his number of defective yards for the day. He can compare his record with the other knitters' records and get an idea how much defective knitting takes place when a machine gets out of adjustment.



**TO KEEP TOP ROLLS in good condition: don't overweight, watch for slippage, change traverse length, select a rugged covering, and keep clearers on all rolls. The improvement in your quality should more than repay you for the time and trouble spent.**

# *Are Your* TOP ROLLS *In Top Shape?*

**▶ Careful attention to top rolls can save you money. Bad top rolls can cause uneven drafting, can increase ends down, and can make more waste—to mention just a few costly effects.**

**▶ Here are some of the points you should check on your top rolls in drawing, roving, and spinning.**

**By RICHARD CROWSLEY**

THERE ARE A FEW POINTS about top rolls that are not always fully realized. For instance, did you ever consider the small margin by which a top roll turns at all?

The top roll is driven by frictional contact with the bottom roll; and the friction is caused by the pressure on the top roll from its weighting system. The saddle or weight hook is bearing against the top roll also, and the top roll turns because there is a slightly greater drive created by the surface of this roll against the bottom roll than there is resistance to turning caused by the friction of the top roll and its own pressure system. In self-weighted rolls this condition does not hold true, although the drive must overcome the inertia of the weight of the roll, which resists movement like all physical bodies.

On the ordinary roll, therefore, the grip of the bottom roll and top roll must be great enough to overcome the conflicting friction of the roll and its weighting. The remedy is not to apply more weight, for more weight increases the resistance to turning just as much as the increased pressure helps in obtaining greater contact and driving force between the rolls.

## Slippage Can Cause Weak Yarn

If the above fundamental truth is remembered, you are well on your way toward overcoming one of the worst faults that can occur in a top roll—slippage against the bottom roll. Roll slippage will create thick and thin spots in the yarn because it interrupts the smooth drafting and even flow of

the fibers through the drafting elements. Slippage also causes a change in the weight of the yarn. In some instances the back rolls will slip and will cause less stock to be fed forward so that the yarn from that particular spindle will be consistently underweight. Such yarn is weaker than expected and is a cause of breaks and machine stoppages at later stages of processing.

### Traversing Becomes Less Important

A more common fault is the use of top rolls that after continued wear have formed a hollow in the center of the roll. All fibers have an abrasive effect on top-roll coverings and will in time cause a decrease in cot diameter. This grooving will be more pronounced in the center of the roll and will taper off to each side because the traverse motion keeps the strand of fibers in the center a greater part of the time. The groove prevents the rolls from gripping the fibers securely and therefore the drafting will be erratic. Fibers in the center of the strand are permitted to slip forward out of turn or to bunch up, and the yarn will be full of thick and thin places.

Some of the new top-roll composition coverings are more resistant to this type of wear than the materials that were formerly available. Also, the modern traverse motion is designed to minimize this hollowing effect. The traverse motion in use on new equipment is more positively driven than the one on older frames and is designed to eliminate any dwell at the end of the traverse strokes so that the strand of fibers is always moving across the face of the roll surface.

In addition, the traverse motion usually has a hunting-tooth mechanism that changes the length of the traverse stroke each time so that the wear will be distributed along the ends of the rolls and will not terminate at a definite point. If the traverse stroke is not changed in this way but covers the same distance each time, the roll will develop a definite ridge on each end that will act as a collar and prevent the roll from pressing against the bottom roll evenly. In effect, this condition will have the same consequences as hollowing of the roll because the fibers will not be gripped firmly but will be allowed to slip forward out of turn.

The newer and tougher top-roll coverings have been a great aid in delaying or preventing the grooving of rolls. The biggest advantage of these new coverings is not that they reduce the necessity for re-covering so frequently but that they make the traversing of the strand of fibers less important. As the covering wears longer, the traverse strokes may be shortened without creating excessive grooving; and, therefore, the fibers may be kept moving in a smaller area near the center of the roll.

In the older drafting elements with more delicate roll coverings, the traverse motion was of necessity adjusted to cover as much of the face of the roll as possible in order to prolong the period before grooving developed. However, short traverses are advantageous because they keep the strand of fibers in the middle of the roll. When the strand is in the center of the roll, the pressure is evenly distributed across the entire strand and all fibers are held more or less equally.

However, when the strand is moved by the traverse motion to a position close to the end of the roll, the top roll is apt to become tipped and the pressure becomes unequal. In this position the inner portion of the bulk of fibers is pinched and the outer part of the strand, which is not held under sufficient pressure, may slip through the nip of the rolls without being properly drafted. Naturally, any slippage or retention will cause uneven drafting and uneven and weak yarn.

A very short traverse movement is all that is needed when synthetic coverings are used for rolls drafting most types of synthetic fibers. Except for a few fibers that have extremely abrasive qualities that cause cut roll coverings, top rolls need buffing because they become slick and lose their traction rather than because a groove or hollow has been worn. When the traverse is too long, the ends are brought too far from the center of the roll; and because there is less pressure on the ends of the cots than in the middle, the fibers near the selvages of the strand are not held securely.

### Roll Coverings Are No Problem

Synthetic top-roll coverings have been a boon in another way that has not been realized by many of the mills now using them, particularly the older cotton mills now running synthetic fibers. As the technology of drafting and spinning synthetic fibers advanced, composition top-roll coverings were used because of their reduced tendency to lap up and because of their longer life.

In the last few years it became apparent that top-roll pressures should be increased materially if the best in drafting was to be expected. The newer drafting systems for synthetics have been equipped with heavier springs in the spring-weighting systems for just this purpose. To compensate for this added pressure, bottom steel rolls have been equipped with antifriction bearings, more roll stands are used to distribute the weight more evenly on roll bearings, and many top rolls are of the antifriction-bearing type.

One problem that has already been solved very satisfactorily is that of roll covering, as the synthetic or composition materials already well tested in the mills proved perfectly capable of standing up under the increased weighting. If it had not been for this covering, mills and machinery designers would still have been confronted with a serious problem before such

(*Continued on page 210*)

## *Basic Facts About Top Rolls*

**Wherever drafting is accomplished with sets of top and bottom rolls, top rolls have the same function: to hold the fibers firmly against the bottom rolls and to control these fibers during drafting.**

**The rolls achieve their purpose by means of the pressure that is applied to them through dead weights, springs, or the weight of the roll itself. In order to grip the fibers effectively, the rolls must be under pressure and also must have a surface that will grip the fiber firmly. The consistency of the covering and the hardness and thickness of the cushion determine how much the pressure of the weighting will cause the roll to flatten out and spread against the bottom steel roll. These factors, then, must be taken into account in judging the effectiveness of a specific type of roll covering.**

WEEKLY REPORT—BOILER AND FEED WATER

| | Date | Boiler No. | BOILER WATER TESTS: Alkalinity Phenol | Alkalinity Methyl Orange | Sodium Sulphite | Chlorides | Sodium Sulfate | pH | Phosphate | FEED WATER: pH | Temp. | Total Blow Down Min. | Total Make-Up Water Gals. | Total Water Evap. Gals. | Total Fuel Lbs. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TYPICAL WINTER USE | | 1 | 20 | 40 | 10 | 30 | | 10.0 | 40 | | 220 | 4 | | 110,100 | 5,400 |
| | | 1 | 40 | 60 | 10 | 30 | | 10.0 | 60 | | 220 | 4 | | 142,950 | 11,100 |
| | | 1 | 70 | 90 | 5 | 40 | | 10.2 | 40 | | 220 | 4 | | 79,500 | 6,900 |
| | | 1 | 90 | 110 | 10 | 40 | | 10.2 | 60 | | 220 | 4 | | 95,400 | 9,900 |
| | | 1 | 120 | 140 | 20 | 40 | | 10.2 | 50 | | 220 | 4 | | 131,250 | 11,700 |
| | | 1 | 130 | 160 | 30 | 50 | | 10.3 | 60 | | 220 | 4 | | 135,200 | 11,900 |
| TYPICAL SUMMER USE | | 2 | 160 | 200 | 40 | 25 | | 10.2 | 30 | | 220 | 4 | | 17,900 | 3600 |
| | | 2 | 220 | 240 | 60 | 30 | | 10.2 | 30 | | 220 | 4 | | 43,800 | 8,100 |
| | | 2 | 240 | 280 | 70 | 30 | | 10.2 | 50 | | 220 | 4 | | 41,200 | 7,800 |
| | | 2 | 240 | 300 | 60 | 40 | | 10.2 | 50 | | 220 | 4 | | 36,300 | 6,900 |
| | | 2 | 240 | 320 | 30 | 40 | | 10.2 | 80 | | 220 | 4 | | 49,200 | 6,600 |
| | | 2 | 220 | 280 | 50 | 40 | | 10.2 | 100 | | 220 | 4 | | 42,300 | 8,400 |

Sodium Sulfite added during week 4 lbs.

Phosphate added during week 31 qts./lbs.

Sulphate added during week _____ lbs.

Remarks: _____

Plant: ANNISTON MFG. CO.

Location: ANNISTON, ALA.

Signed by E. W. Gilmer

*DAILY CHECKS, such as those compiled in this weekly report, provide an excellent basis for boiler adjustments. The chemical analysis is made each morning, and the flow of chemicals is regulated to give maximum efficiency. The efficiency of the plant can be measured from the fuel used and water evaporated.*

# Good Planning Gives High STEAM-PLANT EFFICIENCY

***Anniston Mfg. Co., Anniston, Ala., gets high efficiency from its steam plant through carrying out of a rigorous preventive-maintenance program and through careful control of its steam consumption so as to obtain maximum savings during low-demand periods.***

- ***Each of the two boilers is inspected, cleaned, and repaired after three months of operation.***
- ***Each boiler carries the full plant load for about six months of the year and acts as a standby for the other six months.***
- ***Daily checks on chemical analysis, fuel consumption, and water evaporated are used to adjust boilers for maximum efficiency.***
- ***Plant heating can be controlled at valves in the boiler room or by thermostats in the production areas.***

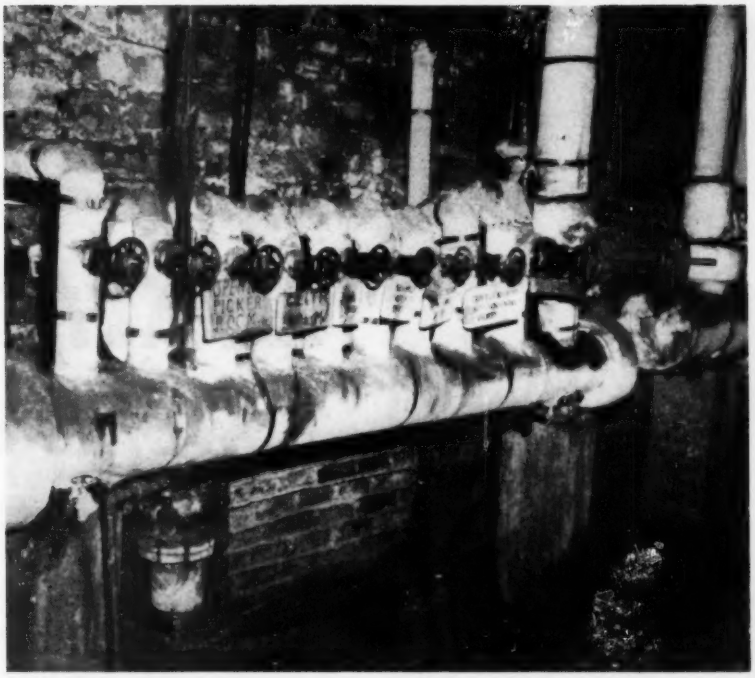
***By E. DALTON WHITE,*** *McGraw-Hill Atlanta Bureau*

TO GET THE MAXIMUM EFFICIENCY from its steam plant, Anniston Mfg. Co., Anniston, Ala., has instituted a good preventive-maintenance set-up, keeps complete records of boiler operations, and wisely schedules the use of the two boilers.

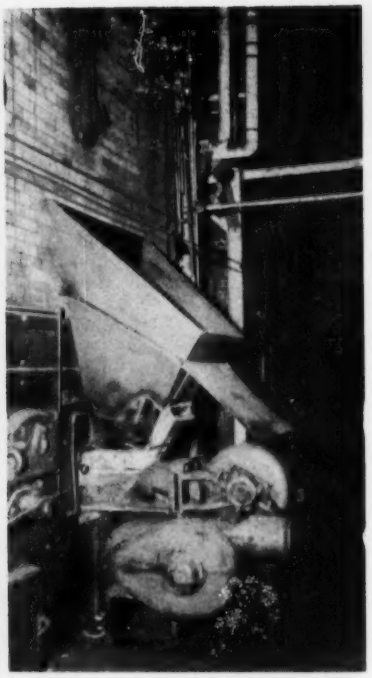
The mill has two Babcock & Wilcox type-A Sterling boilers. One is rated at 180-lb. pressure and the other at 160-lb. pressure. Both are equipped with Detroit Unistokers and Bailey meter recorders. These boilers supply both heating and processing steam for the mill.

### Preventive Maintenance Used

Every three months one boiler is shut down, inspected and cleaned. Re-



*BOILER FEEDS lead into the headers, from which an individual supply line goes to each mill production area. This arrangement has proved superior to one large main for each mill building.*



*AUTOMATIC COAL-HANDLING equipment and feed to stokers has not been installed because plant expects to convert to natural gas.*

pairs are made at this time if any are necessary. The other boiler is of such a size that it will carry the full plant load. With this arrangement, each boiler gets at least two thorough cleanings each year. It carries the full plant load for about six months of each year, and acts as a standby, or jointly carrys the plant load, for the remainder of the year. The normal schedule for each boiler is three months running and three months down.

It has been found with this schedule that boiler operation is very economical, even at low steam production. However, the mill prefers to schedule the larger boiler for operations starting in November so that it can carry more economically the heating as well as processing load.

The weather plays an important part in boiler operations because heating demand varies widely. For this reason, regular checks are made on weather forecasts, and boiler changeover is anticipated on the basis of production demands and weather forecasts. Changeovers are made on the weekends when the load is light. This procedure allows one boiler to cool while the other one is being brought up to proper steam temperature and pressure.

Normal blowdown is for 1 min. every 6 hr.—or four times during the 24-hr. operating period. This blowdown is based on a pH of 10 to 11; and if it rises above that point, the boiler is blown down more often.

Once each year the boilers are given a thorough overhauling. The drums are scraped, and a wire brush is run through the tubes. Fire brick is kept in good condition.

If necessary, the standby boiler can be operated in parallel with the other boiler. It is put into operation when high or unusual steam loads are required.

## Dual Control for Heating Steam

The steam heater for plant heating is located at the rear of the boiler room and has a set of valves that controls the flow of steam to each mill production area. This arrangement of individual steam lines has effected a substantial savings in steam during periods when mill heating is not required. Also, when temperature begins to drop or rise, heating-steam flow can be adjusted at the boiler plant for the most comfortable working temperature.

In addition to the controls at the boiler plant, each mill production area has its own thermostat control to maintain even temperature. The big advantage in this dual arrangement is that the lines to the production areas are not "live" during months when heating is not required.

A steam trap is installed in every main line for bleeding condensate back to the boiler. They are installed on each end of the line to prevent water hammer.

The tight system of return of condensate to the boilers has the advantage of reducing chemical requirements for treating boiler feed water, and it also reduces boiler scale.

Condensate is collected in a tank in the boiler plant and then pumped to a Cochrane Corp. deaërating heater before it is pumped to the boilers. The plant has an electrically driven pump with a steam-driven pump as a standby.

Recently the mill erected a new 150-ft.-high stack to replace the old 120-ft. stack. The higher stack eliminated forced draft in boiler operations. The stack lead from the boilers has been fully insulated to give more comfortable room temperature in the boiler plant.

The plant has its own deep wells as source of water supply for all mill operations. A 50,000-gal. storage tank insures a steady supply. No chemical treatment is necessary other than for boiler feed water.

At present, coal is unloaded at the side of the boiler plant. It is wheeled into the plant and dumped into hoppers. Automatic coal-handling equipment has not been installed because the plant expects to change over to natural gas when such supply becomes available.

# Simple QUALITY Works at

A SPECIAL INSPECTOR makes a check of the fabric quality on each machine during each shift. His check is in addition to the knitter's inspection every 45 min.

A SPOT CHECK of the yarn is made by the yarn carrier when he opens the cartons. Any yarn that doesn't meet the mill standards is returned to the spinner.

**E-Z Mills keeps details to a minimum in its quality-control system. The main principles of the system are—**

- **Maintain a fresh supply of yarn**
- **Keep the lots separate**
- **Control the lint**
- **Keep machines in adjustment**

**By E. DALTON WHITE**
McGraw-Hill Atlanta Bureau

THE QUALITY-CONTROL SYSTEM at E-Z Mills, Inc., Cartersville, Ga., works in conjunction with its workload system to allow the knitters to devote maximum attention to quality knitting. The system is intended to be as simple as possible to avoid the heavy supervision that complicated procedures require. Too many details can cause any system to bog down.

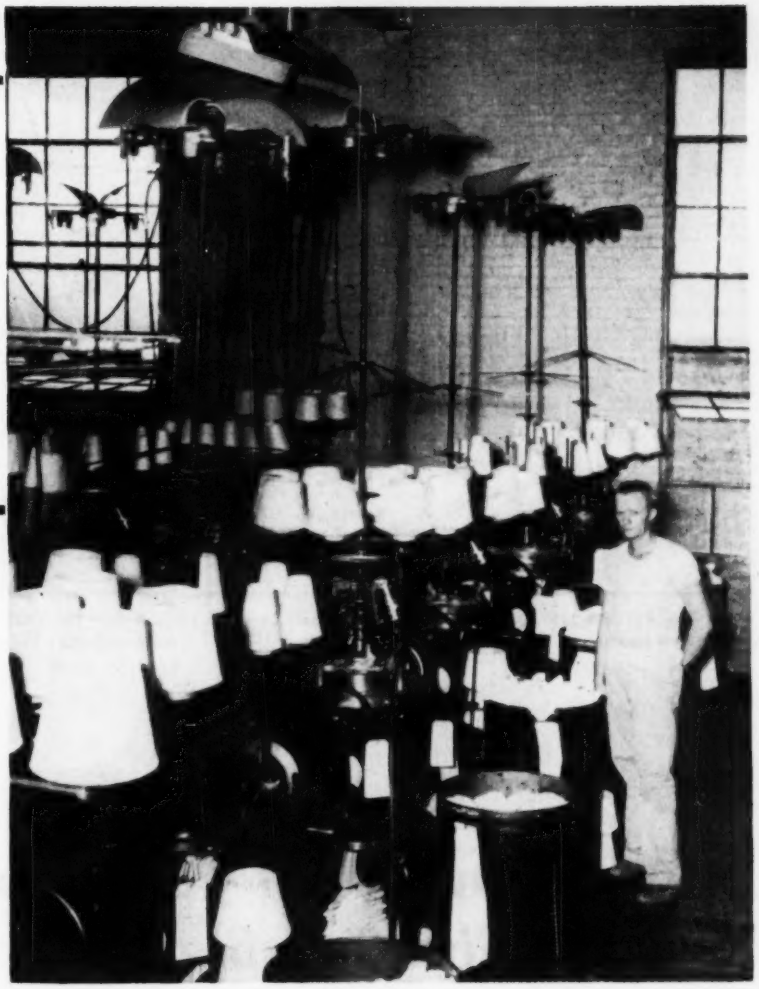
## Yarn Supply Is Kept Small

The knitting yarn is purchased from a number of Southern spinning mills and transported to the plant in E-Z Mills' own fleet of trucks. This system maintains a supply of fresh yarn, reduces the storage problem, and eliminates the need for conditioning the yarn before knitting. A four- to five-day supply of yarn is maintained in the warehouse.

When the cartons are opened by the yarn carriers, a spot check is made of the cones. The knitters also observe the quality of the yarn. Any yarn that is not up to E-Z standards is returned to the spinner.

E-Z Mills uses a soft yarn to produce knitted fabrics with a soft hand.

# CONTROL
## E-Z Mills



FINS mounted on top of the stop-motion brackets help to protect the yarn from lint. The fins are shaped so that the lint is stopped and directed away from the yarn cones.

The yarn has only enough twist to prevent it from pulling apart during the knitting operation. A double feed to the needle is preferred to a two-ply or a heavier single yarn.

The soft yarn is kept under low tension in the knitting operation. The only tension on the yarn is the tension developed as the yarn passes over the stop-motion controls to the needles, and the tension is controlled at the stop motion.

An allowance of 1% is made for the difference between yarn weight and fabric weight caused by lint and yarn waste from the tail end of the cones. The lint is kept away from the machine and the yarn by fins mounted on top of the stop-motion brackets. Lint is blown off the machines once every 45 min. before the periodic fabric inspection. Also, once every shift the lint is blown off for machine cleaning; and at the close of the last shift at the end of the week, production is stopped an hour early for blowing off and cleaning.

### Lots Kept Separate

E-Z Mills does not mix its yarn. Lots from the different suppliers are kept separate, and all yarn in a particular lot is used before another lot is brought to the knitting room. The variations in lots are caused mainly by different blending processes in the spinning mills and the origin of the cotton. Since different lots knit and dye differently, control of the lot supply is an important factor in quality control.

Yarn lots from different suppliers also vary slightly in yarn number, and this variation requires different knitting-machine settings and adjustments. Control of the lots allows a machine to be adjusted and set for a particular lot and allows the machine to run on a particular setting for the duration of the lot.

Three fixers on each shift keep the machines to their proper adjustments. The knitters are sensitive to the slightest defection in quality operation and are quick to call on the fixer to remedy an abnormal variation. This cooperation between knitter and fixer is essential to E-Z's quality knitting.

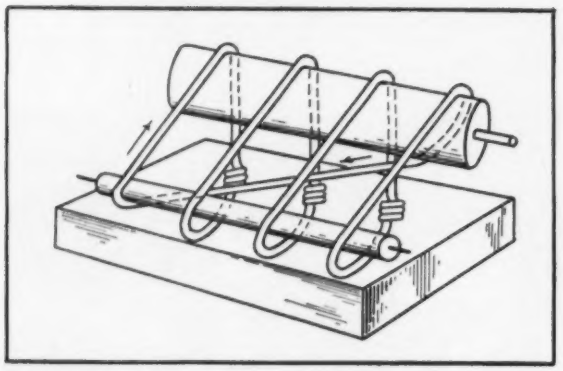
A special inspector on each shift checks the fabric on each machine as a safety factor in the control of quality. He notifies the knitter and the fixer if a variation from the mill standards is observed.

### Fixing Done in Repair Shop

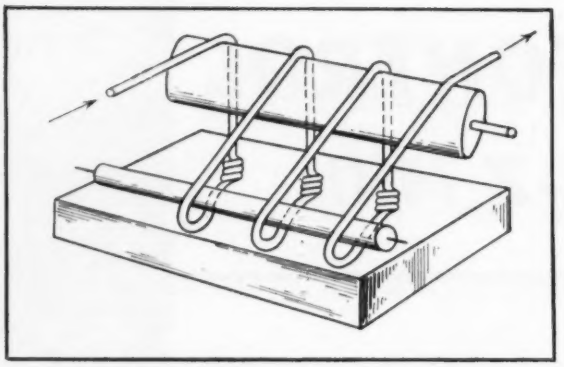
Machines that require more than a minor adjustment are removed from the line and replaced by a machine from storage. This change is done efficiently because the mill keeps a sufficient number of spare machines in storage and each machine has an individual drive. The machines in storage are assigned to particular knitters by number, and a machine taken from the storage room to replace a broken machine is always one that is assigned to the same knitter as the broken machine. In this way, a knitter becomes familiar with the peculiarities of all the machines assigned to him.

The machine that needs fixing is taken to the repair and maintenance shop. Two fixers per shift have the primary duty of major repair and overhaul. This arrangement allows the other fixers to devote their efforts to the operating machines on the production line.

Major machine overhauls are performed at least once a year. The semi-flat machines, which have only cylinder needles, are overhauled every 6 months.



WITH THE RETURN LINE under the laps or over, short lines can cause excess tension and long lines will float and tangle.



IN A CONTINUOUS RANGE trouble from short or long lines can cause damage. The simplest cure for such trouble is prevention.

# Do Your Oval-Reel Continuous-Chain Washers Give Trouble?

- Short-lines may be caused by poor design or by poor loading technique
- Testing and interpretation can pinpoint your troubles

By WILLIAM O'KEEFE

ONE OF THE MOST troublesome problems in continuous-chain work is the "short line." A strand will gradually lose cloth until finally the few yards remaining in the strand are stretched tightly between oval reel and front reel. When a short line appears, the long line is usually also there somewhere in the machine, causing tangles by drifting into other lines. The short line can be lengthened by stopping the cloth in it to let the oval reel pile cloth into it, but naturally it is better to use oval reels of proper design. Cloth being dyed may be in a machine for as long as 15 hr., while a washer may run for 140 hr. at a time. During these long runs some line shortening will be very apt to occur, but good oval-reel design will keep it within manageable amount.

The main cause of short lines is poor design of the oval reel. Other direct causes are faulty oval-reel design that results in changed perimeters under load, irregular covering on the oval reel, and slipping on the oval reel.

An indirect cause is irregular initial loading of the beck.

If there is no slippage on the oval reel, any shortening of lines is due to a difference in perimeters along the oval reel. This difference is not solely a difference measurable when the reel is at rest but is the difference in perimeters along the reel length when the reel is turning under load. Many reels are designed and constructed to have uniform perimeters when idle, but give most disappointing results in continuous-chain work.

When a reel is covered, even an extra thickness of cloth covering at one point will make a noticeable difference. The term "difference in perimeters" concerns itself basically with reel form, not with reel strength. This is very important to remember where short-lines are concerned..

## Some Cures Are Possible

To alleviate an existing short-line problem, the following steps can be taken:

1. A slower speed will help some-

what, but is usually out of the question for a washer, especially when part of a chain system.

2. The reel cloth coverings should be made smoother if they are at all irregular and the reels are themselves satisfactory.

3. If the individual strands are loaded more heavily it will allow a tub to run longer before a short-line appears.

4. The loading may be done in such fashion that cloth does not run in particularly troublesome areas.

5. The troublesome areas can be built up by wrapping with cloth, as take-off reels are sometimes wrapped to synchronize them with the next machine.

6. The initial loading can be so arranged that more cloth is put into the potential short lines than in other lines. This is a rarely practical procedure.

No matter how carefully a machine is run, tangles will occur in addition to short lines. Some of these will cause cloth to wrap around the oval reel, squeezing in the outer surface. Strength of the outer surface is very important in these accidents, because any failure in this area usually means an expensive repair of doubtful effectiveness.

### This Test Is Helpful

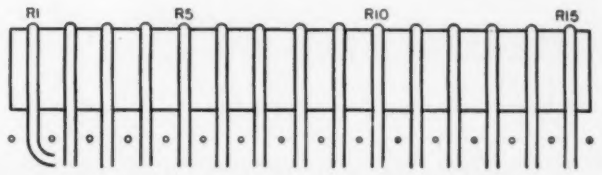
It is difficult for even an experienced engineer to analyze a modern reel and give a definite value for maximum loss of cloth in any strand. Some assumptions can be made and the results of analysis will be valuable. However, an actual test of a reel is the best way to tell. The following procedure details the test:

1. Measure the perimeter of the reel at several points, over spacers and between spacers, to see if there is any damage or irregularity because of covering.

2. Load the machine in continuous chain with a nearly equal amount of cloth in each strand. Use as many spaces as possible.

3. Mark a point on the cloth line with a contrastingly colored marker of cloth, and start the machine. If the machine has a variable-speed drive the speed must not change during the test.

(Continued on page 220)

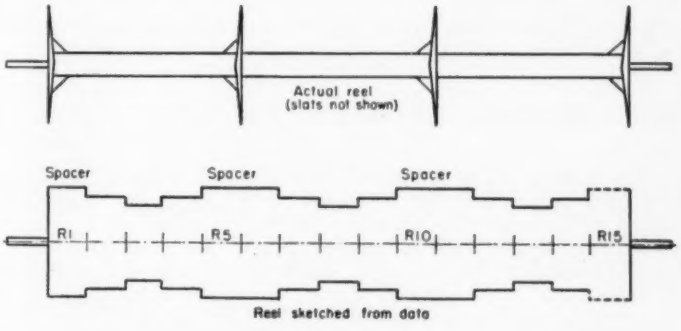



View from front showing numbering method for strands passing through the rake and over the front reel

| Complete cycles of marker | 1st | 2nd | 3rd | 4th | 5th | Average |
|---|---|---|---|---|---|---|
| | | | Times in seconds | | | |
| Strands | | | | | | |
| R1 to R2 | 85 | 86 | 87 | 89 | 90 | 87.4 |
| R2 to R3 | 88 | 89 | 90 | 91 | 92 | 90. |
| R3 to R4 | 83 | 82 | 80 | 78 | 76 | 79.8 |
| R4 to R5 | 80 | 78 | 76 | 74 | 73 | 76.2 |
| R5 to R6 | 88 | 88 | 88 | 88 | 89 | 88.2 |
| R6 to R7 | 84 | 86 | 89 | 91 | 93 | 88.6 |
| R7 to R8 | 81 | 85 | 89 | 92 | 96 | 87.8 |
| R8 to R9 | 87 | 84 | 81 | 78 | 74 | 80.8 |
| R9 to R10 | 85 | 83 | 82 | 80 | 79 | 81.8 |
| R10 to R11 | 83 | 83 | 83 | 84 | 83 | 83.2 |
| R11 to R12 | 80 | 82 | 84 | 86 | 88 | 84. |
| R12 to R13 | 86 | 88 | 89 | 90 | 91 | 87.8 |
| R13 to R14 | 82 | 80 | 78 | 76 | 74 | 78. |
| R14 to R15 | 87 | 85 | 83 | 82 | 80 | 83.4 |
| R15 to R1 | 7 | 7 | 7 | 7 | 7 | 7. |
| Total times in seconds | 1186 | 1186 | 1186 | 1186 | 1185 | |

Maximum loss is in R8 to R9 and equals 13 seconds in about 4744 seconds or 10 seconds per hour.

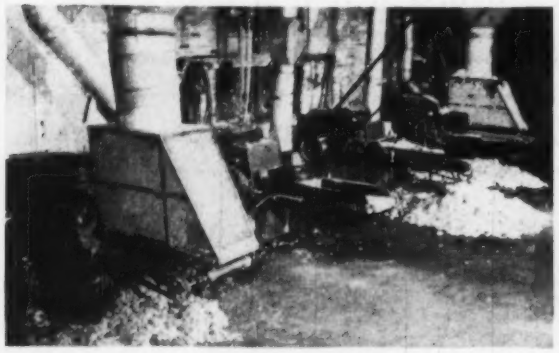
Maximum gain is in R7 to R8 and equals 15 seconds in about 4744 seconds or 11 seconds per hour.



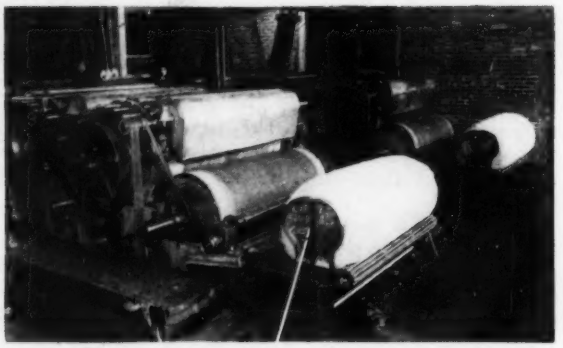

**A DYNAMIC PROFILE, taken by actual time measurement on a running reel, as tabulated, is shown in the sketch at bottom.**

CAREFUL SORTING is the first step in reclaiming wool fiber. The stock is sorted for the kind of fiber, fabric type, and color.

FLOOR PILES OF STOCK, carefully selected for material and color, are sprayed with an oil emulsion to aid in later opening and garnetting.



A BATTERY OF RAG PICKERS opens the stock for the garnetts. The prepared stock is blown into storage bins behind the garnetts.



FOUR-CYLINDER GARNETTS clean, parallelize and blend the fibrous stock. Cross feeder above third cylinder was developed in this plant.

# *Careful Handling Means* GOOD GARNETTING

**HIGHLIGHTS: Garnetting isn't what it used to be. At every process from sorting through garnetting, careful handling and accurate machine settings are resulting in good fiber to extend our virgin-wool supply.**

**By E. H. HELLIWELL,** Contributing Editor, TEXTILE WORLD

FROM RAGS TO FINISHED reclaimed wool fiber, let's follow the stock through a typical garnetting plant—Abrants Garnetting Co., Woonsocket, R. I. This modern, well-equipped plant processes all types of woolen materials and is known for the quality of its garnetted stock.

## Sorting

Sorting of stock is the first step before actual machine processing. New rags or clippings are separated from old rags in the first sorting, and the next step is the separation of pure-wool materials from mixed-type materials. Divisions in sorting are made for the type of fabric—knitted, woven, felted, with hard or soft twisted yarns, fulled or unfulled. The final division is for color to better control the color blend of finished garnetted stock.

## Dusting

Before or after sorting, dirty or dusty rags are run through a duster, which removes dirt and foreign material and assists in opening the stock for further processing. Dirty rags are sometimes cleaned or scoured, and mixed rags may be carbonized to remove the non-wool content. The stock of each sorting is spread on the floor in layers and is then sprayed with an emulsion of oil and water. The percentage of oil in the emulsion and the amount of emulsion applied depend on the stock. The emulsion is allowed sufficient time to penetrate the stock so that it will do its job of lubricating and softening up the stock for the next process.

## Picking

Vertical "bites" of stock are taken from the floor pile and fed by hand to

the apron of the rag picker. The stock is held securely by fluted feed rolls while a large cylinder fitted with coarse steel teeth or pins reduces the stock to a partially fibrous state. The processed stock from the delivery end of the picker is blown into a storage bin to await the next process.

### Garnetting

Stock from the storage bins is fed by hand into the hopper of an automatic feeder behind the garnett. The forward-moving bottom apron of the feeder brings the stock in the hopper in contact with a lifting spiked apron. The upward movement of this apron lifts the stock from the hopper, and the excess is combed off by an adjustable reciprocating comb.

After the stock passes the comb, it is carried downward, where it is stripped off into a scale pan. Equal predetermined weights of stock are deposited at regular intervals from the scale pan to the delivery apron and from there to the rolls of the lickerin and through the garnett breast to the first cylinder.

Worker and stripper rolls are set close to the cylinder in this first section. The stock combed off the first doffer is delivered to the second cylinder and, after being acted upon by the workers and strippers, is delivered to the second doffer.

The processing at this point departs from the conventional garnetting procedure. The method of cross feeding developed in this plant was designed to improve the cleaning, mixing, and blending of the stock. The sheet of partially paralleled fibers, combed from the second doffer, is conveyed by a lateral conveyor under the doffer to a vertical conveyor and then to a swing distributor that feeds the stock crosswise to the third cylinder. The fibers thus fed are at right angles to the cylinder face.

This right-angle feeding tends to equalize any color, weight, or stock variations across the width of the partially garnetted sheet of fibers. The stock passes from the doffer of the third cylinder to the fourth cylinder and is combed off the fourth doffer and wound into a lap.

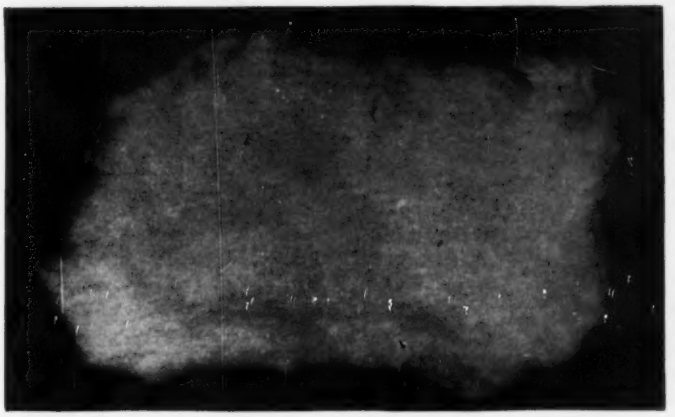
The finished garnetted stock in this plant is a uniform blend of stock and color in a well-opened, fibrous condition. The quality of garnetted stock, of course, depends largely on the nature of the material from which it is made. The sorting, selection, mixing, settings, and process controls are also important factors in garnett quality.

Good garnetted stock is often better than some types of inferior virgin wools.

### Transformed by Garnetting . . . . . .

**SORTED AND OILED—the stock looks like a mass of worthless rags. Careful handling will make an end product superior to some grades of virgin wool.**

**PARTIALLY SHREDDED AND OPENED—the original stock can no longer be recognized. Practically all semblance of fabric is gone; you can distinguish only yarn.**



**FINISHED PRODUCT—the garnetted stock is a fleecy, well-blended product that is uniform in color, has good fiber length, and will spin well.**

**COMPARATIVE CONING OIL TESTS** were run by this throwster in an effort to improve quality. Sunoco Fibrlub L-220 gave the finest results. It lubricated better, reducing breakage. Because it does not change in viscosity or composition, Fibrlub L-220 eliminated preferential pick-up. Along with economies in production, it brought substantial savings in process oil costs.

**DELAYS ELIMINATED.** A well-known knitter had trouble with an expensive trough oil. It would not form stable emulsions and it frequently caused unlevel dyeing, because it would not scour out thoroughly. Changing to Sunotex TS-48 proved the answer to both problems. In addition, Sunotex TS-48 helps him get cleaner, rounder, more uniform stitches.

# MILLS FIND 3 SUN PROCESS AIDS MEET ALL NYLON HOSIERY NEEDS

Through the years, working in close collaboration with the technical staffs of nylon throwsters and knitters, Sun Oil Company research groups have developed three process aids which meet all fiber lubrication requirements of the full-fashioned hosiery industry. Each serves a particular purpose: Sunoco Fibrlub L-220 is a coning oil for throwsters; Sunotex TS-48 a trough oil for knitters of 30-and-higher-denier hose; Sunoco Fibrlub 45 a special wick oil for knitters of 15 and 20-denier hose.

That there are real advantages in using these "Job-Proved" process aids is obvious from their extensive use in plants throughout the East, the South and Canada. For information about how they can help you produce better nylons faster, and more profitably, fill in the coupon below.

**SUN OIL COMPANY, Dept. TW-1, Philadelphia 3, Pa.**

We would like to consult a Sun representative in reference to ☐ coning oil, ☐ trough oil, ☐ wick oil.

Name_____

Title_____

Company_____

Street_____

City_____ Zone____ State_____

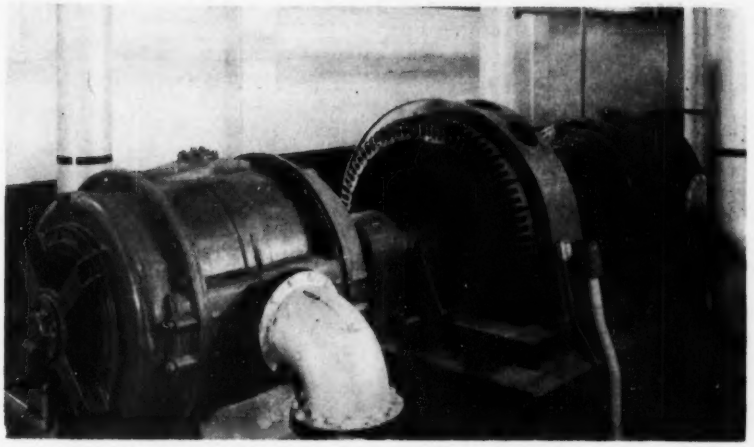
**A COMPLETE LINE OF PROCESS AIDS.** In addition to nylon-process aids, Sun Oil Company produces textile-process aids for use with wool, synthetics, blends of wool and synthetics, cotton and cordage. Sun's technical staff, backed by Sun's extensive research facilities, is at your service for consultation on any processing problem you may have.

**WEAR HAS BEEN NEGLIGIBLE** on needles and carrier tubes ever since a prominent knitter of 15 and 20-denier hose adopted Fibrlub 45 as his wick oil. He says that this product, though less costly, is superior in thread lubricating qualities to most of the oils he used before. It feeds readily through the wick and is delivered in sufficient quantity to the thread.

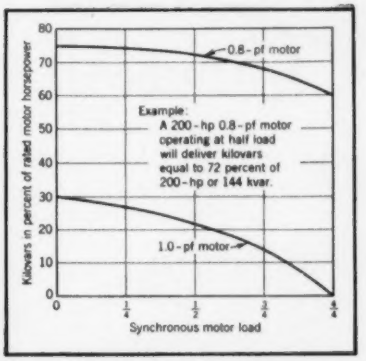
**SUN INDUSTRIAL PRODUCTS**

SUN OIL COMPANY, PHILADELPHIA 3, PA. • SUN OIL COMPANY, LTD., TORONTO AND MONTREAL

SUNOCO



THIS SYNCHRONOUS MOTOR is driving two pumps, but it can drive the air compressor in a textile plant and improve the power factor. The motors, available in low speeds, need no reduction gears. The simple construction of the motors makes all parts available for ease of assembly and maintenance.




THE REACTIVE KVA OUTPUT of synchronous motors increases as the voltage decreases, and vice versa. Synchronous motors thus have a tendency to maintain a constant voltage in the power supply. The 1.0-power-factor motor has current in phase with the voltage; the 0.8-power-factor motor has the current leading the voltage.

# SYNCHRONOUS MOTORS Can Improve Your Plant Power Factor

**▶ Induction motors of 75 hp. and over—such as the motors that drive air compressors—demand excessive magnetizing current at part loads, and this demand causes a poor power factor.**

**▶ Synchronous motors can improve power factor because they:**

**Need no magnetizing current at full load**

**Generate current at part loads**

**Stabilize power-system voltage**

**By J. C. MOORE,** General Electric Co.

CONSIDERATION OF synchronous motors is worthwhile if a plant needs a new large-motor (over 75 hp.) drive. In many instances the installation of synchronous motors is the most economical method of improving the plant power factor, if ability to provide efficient mechanical power is considered.

## Why Power Factor Is Important

The load that a power system can carry is proportional to the plant power factor, which is expressed as kilowatt load divided by the kilovar load. The efficiency of the whole plant power system increases as the power factor approaches unity. A higher power factor can make it possible to safely increase the horsepower load on the existing system. A higher power factor can also mean less investment in transformers, feeder lines, and voltage-regulating devices if a new system is required.

Good operating conditions require high power factors, too. A poor power factor often results in voltage drops that increase the slip of induction motors to the point where production is adversely affected. If the voltage drops more than 10% below normal, induction motors can overheat or stall. High power-system losses, poor plant-lighting conditions, high power bills, and increased maintenance of the power supply commonly accompany a poor power factor.

In most power systems, poor power factor is caused by excessive demands for magnetizing current (reactive kva.) by induction motors at part loads and other inductive equipment. This magnetizing current, although necessary, does no useful work and limits the power a system can carry.

A unity-power-factor synchronous motor (current in phase with the voltage) adds to the kilowatt load on a power system without increasing the reactive-kva. load, for it needs no magnetizing current when normally excited at full load. In other words, it brings the ratio of kw. to kva. closer to 1.00. For example, if a 1,000-hp. unity-power-factor synchronous motor is added to a 1,000-hp. plant load having a power factor of 0.80, the new load of 2,000 hp. would have a power factor of 0.935.

A leading-power-factor synchronous motor (current leading the voltage) acts as a kva. generator and can supply fairly large amounts of kva.'s to a power system while performing its usual driving duties.

## Voltage Is Stabilized

The ability of either the unit-power-factor or 0.8-power-factor syn-

(*Continued on page* 208)

# Teamwork

The brewer's white horses, pulling together, was a stirring sight in the Gay 90's. Today, the proud Percherons, groomed for parade, have another job to do . . . but teamwork is just as vital as it ever was.

What can we do to help insure the future of your business? That's what Butterworth engineers have been asking for 131 years — the question has special meaning today.

Thinking of new machines? We will do the utmost to meet your requirements. Making long range plans? Our engineers are at your service. Even now they are teamed with many of America's leading mills, thinking of the years ahead and planning with them to maintain their competitive position.

Butterworth service is offered too, to help your wet finishing department get the most out of what you now have — to keep equipment at peak efficiency. It may be only a spare part you need — but if you need it in a hurry, you'll get it in a hurry if it is humanly possible.

A letter, a wire or a phone call will put a Butterworth engineer on your team.

H. W. BUTTERWORTH & SONS COMPANY
Bethayres, Pennsylvania

1211 Johnston Bldg., Charlotte, N.C. • 187 Westminster St., Providence, R.I.
Machines for Bleaching, Boiling-Out, Mercerizing, Dyeing, Finishing and Embossing : : Pot Spinning Machines for Synthetic Fibers
Calender Rolls : : Tenter Chains

# BUTTERWORTH

Mechanical, electrical, maintenance, and supply problems were discussed by the Alabama Textile Operating Executives on November 22 at Auburn. The discussions included weld joints in steam pipes vs. screw fittings and several other timely questions.

# Alabama Mill Men Compare MAINTENANCE Practices

### Mechanical Questions

**1. Which is better for steam-line construction, screw fittings or weld fittings?**

Mill A—"Weld fittings are superior to screw fittings. If a steam line is temporary and transports only low-pressure steam, screw fittings are satisfactory."

Mill B—"Screw fittings are more practical for steam lines up to 2 in. in diameter. We use weld fittings on all pipes greater than 2 in."

Mill C—"We use weld joints on 2½-in.-dia. or larger pipes. On smaller pipes, we use screw fittings. If the pipes are near flammable materials, we always use screw fittings."

Mill D—"Since most of our steam pipes are inside the plant, we prefer screw fittings. However, we use weld fittings outside the plant."

Mill E—"The threads on screw fittings corrode and rust quickly and cause leaks when the steam line expands and contracts. If pipes are over 1½ in. in diameter and carry a pressure of 250 lb. or more, we weld all joints."

Mill F—"We weld all steam lines except at control valves, regulators, traps, and strainers that have to be removed."

Five mills like weld fittings better, and five mills prefer screw fittings. The weld fittings are generally preferred for permanent constructions, on outside steam lines, and on pipes larger than 2 in. in diameter.

**2. What is the best way to remove water from compressed-air lines?**

Mill A—"We use both manually operated and automatic aftercoolers at the compressor. Drains on the aftercoolers and receivers are checked daily. The air lines in the mill are arranged so that water can be removed at the drains by gravity."

Mill B—"We have an aftercooler equipped with a large air trap. From the aftercooler, the air goes into a large vertical receiving tank where most of the vapor is condensed. Water is drained from the tank each day.

"We have condensing tanks and blow-off valves in all low places."

Mill C—"We run the air line through flowing water."

Mill D—"We use filters at the air receivers to remove water from air lines. The filters are changed or cleaned every 3 mo."

Mill E—"We refrigerate the air in the aftercooler."

Mill F—"The most economical way to remove water from compressed-air lines is to use an aftercooler with a moisture separator and traps. An automatic trap is used on the receiver."

Mill G—"We placed our condenser and receiving tanks in the coolest location in our plant."

Five mills use aftercoolers with adequate drains for the tank, one mill uses filters at the air receivers, one mill uses refrigeration in the last stage of the cooler, and another mill located its equipment so that it received air from the coolest part of the plant.

**3. How do you maintain your wooden floors?**

Mill A—"The floors were sanded and buffed, primed with a penetrant, rebuffed in rough places, and sealed with a sealing agent. After 2 wk., the floors were mopped and a second sealing coat was applied.

"This work was done 5 yr. ago. Once each year we apply two coats of seal 2 wk. apart. No other maintenance has been required."

Mill B—"We sanded our floors and sealed them with a sealing agent. We have two men who each work 5 hr. daily buffing and resealing the floors.

"The weave-room floor is buffed once a month and resealed each year. All other departments are buffed every 2 mo. and resealed every year.

"This program has cut our floor-maintenance cost 40%."

Mill C—"All new floors receive a coat of floor seal. When old floors appear to contain moisture, we sand and seal them. Our maintenance schedule depends on the condition of the floors and the treatment the floors receive.

"We have some floors in our plant that have not received any attention in 7 yr. other than an occasional cleaning with steel wool.

"Sealing has cut our floor-maintenance costs. We can finish a floor for $0.0256 per sq. ft. This cost includes labor and materials."

Mill D—"We refinished the floors in our mill a section at a time until we completed the job. Six to eight

---

▶ **Dwight E. Epperson**, Montgomery, was elected to the executive committee to succeed **C. H. Canady**, who resigned.

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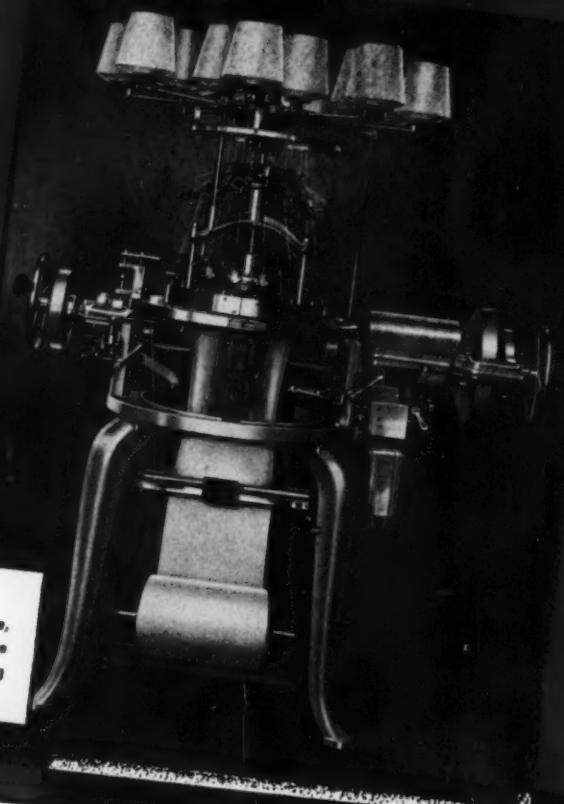
# BRINTON

## OFFERS YOU YOUR CHOICE OF TWO TYPES OF RIB BODY MACHINES

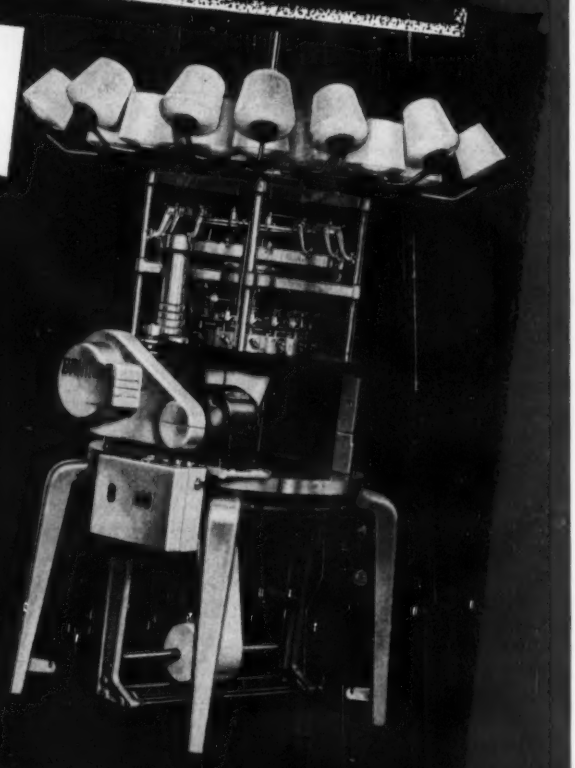


**STATIONARY CYLINDER**

Throughout the world knitting mills are using this type, such as the Brinton Maximum Feed Rib Body Machine shown above, because they find it unexcelled for delivering quality and quantity production.

**REVOLVING CYLINDER**

New features of engineering are combined with speed—plus—quality production in this type—the newest Brinton development. Years of Brinton research have developed these revolving cylinder machines.



WEIGH THE ADVANTAGES

Each type of machine has features of merit. Select the type best suited for your operation. The outstanding advantages of the machine, whichever type, is the Brinton Feature: Brinton's 53 Years of Know-How—seasoned engineering ability, expert mechanical knowledge, top-flight production experience and skilled workmanship—which assures you of the highest quality machine it is possible to manufacture.

**BRINTON**

CIRCULAR KNITTING MACHINES

men set nail heads and sanded, buffed, and sealed the floors.

"Since the whole plant has been finished, we use only two men to maintain the floors. They sand and seal places when old machinery is moved out and new machinery is installed and also keep the floors in good condition.

"We have cut the cost of floor maintenance by using less labor and by replacing fewer floors."

Practically all the mills used different methods for maintenance of their floors. Most mills reported that floor polishing cuts floor-maintenance costs.

### Electrical Maintenance

**1. On motors of over 3 hp., which circuit breaker is best, the fused-disconnect switch or the air-circuit breaker?**

Mill A—"We like the air-circuit breaker. The initial cost is more, but maintenance is less."

Mill B—"Our motors are better protected with air-circuit breakers. On motors of over 5 hp., we like the combination magnetic starter."

Mill C—"We like air-breaker circuits because we think they're safer."

Mill D—"Most of our experience is with fused-disconnect switches, and we find them satisfactory in every way."

Mill E—"The fused-disconnect switch is the most practical for our use, since we think that we are better protected when we use them."

Mill F—"We like the air-circuit breaker because it's more compact."

Mill G—"We prefer combination magnetic switches with circuit breakers."

Mill H—"The air-circuit breaker is more satisfactory to operate and maintain. It protects against single phasing, which sometimes occurs to fused switches when only one fuse blows after a motor reaches its greatest speed.

"This switch also saves time because it can be thrown in after it is tripped unless there is serious trouble along the power line or in the connected load.

"We feel that the air-circuit breaker can be operated more cheaply."

Most mills prefer the air-circuit breaker. Two mills reported that they find fused-disconnect switches satisfactory.

**2. How do you keep records on motors?**

Mill A—"We use cards that contain all information about our motors so that we can quickly review the history of each motor."

Mill B—"We number every motor in our mill and have a card for each motor. The card tells when the motor was received and when the bearings were changed.

"Another card system is set up by weeks and months to show when to oil the motor, check air gaps, test insulation, and check switches."

Mill C—"We have a card system, but we've done so much changing recently that it isn't up to date."

Mill D—"Records are being set up to show the load, type of motor, type of switch, and other vital information for motors in every department of our mill."

Mill E—"We used to keep records of motors when looms and other machinery were driven from group drives. Since we have individual drives on most of our machines, we think that it's too expensive to keep records.

"We have found that it's a waste of time and money to keep individual records of our 2,000 motors and control equipment."

Mill G—"We do not have an adequate system of records on electrical equipment."

Mill H—"We have an index card on all motors in production and on those in the stock room. The cards contain all the data taken from the nameplate reading, the name of the machine they're on, or the stock room they're stored in.

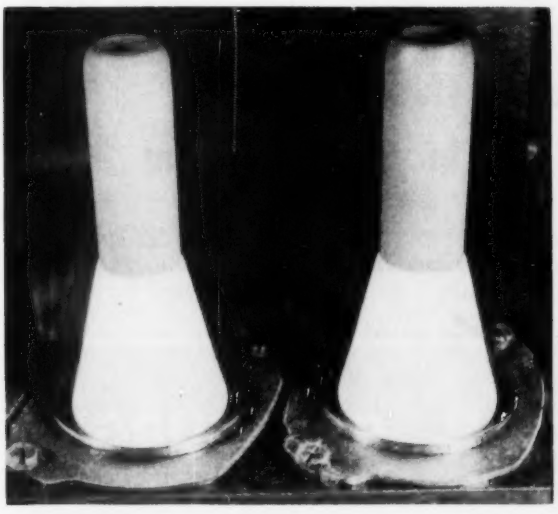
"If a motor has to be removed from a machine, we refer to the index file and locate a spare motor that can be

---

## *Correction*

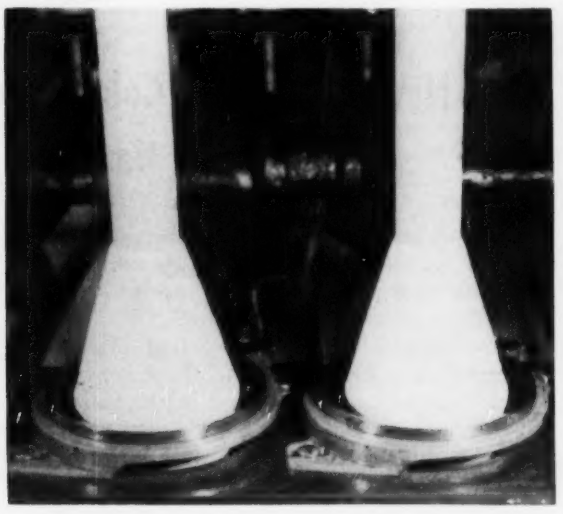
**In an article describing Boger & Crawford Spinning Mill's experience with conical rings made by Herr Mfg. Co. [TW, Dec., '52, p. 116], two photographs were incorrectly placed.**

**To clear up any confusion that may have resulted, we are repeating the pictures, properly identified, below.**



**OLD RINGS**

**Before new rings were installed, the frames were equipped with 2⅛-in. rings of the conventional type. Maximum conventional-ring size would have been 2½ in.**



**NEW RINGS**

**Twisters now have 2¾-in. rings, ¼-in. larger than the largest size of conventional ring that could have been used, because the new rings fit on the rail and not in it.**

# NOW! THE COLOR ON THE OUTSIDE TELLS THE COLOR ON THE INSIDE!

## New Pittsburgh Color-coded Dyestuff drums Save you time and labor in your stockroom

You can say goodbye now to mistakes and wasted motion in your dye storage area! For all Pittsburgh Dyestuff drums are *color-coded* for easy, instant identification. The entire center portion of every 30-gallon drum is painted the same color as the dye it contains. And the label, too, is printed in the color of the dye.

So from now on, when you buy Pittsburgh Dyestuff, you'll be buying fine dyes that are quality controlled from coal-to-color, *plus* the extra convenience of easy-to-identify, color-coded drums. It's one more reason why it pays to buy *basic* . . . buy Pittsburgh!

W&D 4433

FINE CHEMICAL DIVISION

P C&C G

**PITTSBURGH**
**COKE & CHEMICAL CO.**
Grant Building • Pittsburgh 19, Pa.

COAL CHEMICALS • AGRICULTURAL CHEMICALS • FINE CHEMICALS • PROTECTIVE COATINGS • PLASTICIZERS • ACTIVATED CARBON • COKE • CEMENT • PIG IRON

used in its place. As soon as the faulty motor is repaired, a new index card is made for it and the motor is placed in stock. Repairs to a motor and the name of the electrician who makes the repairs are recorded on the back side of the card."

A majority of the mills reported that they use cards to keep records of motor maintenance.

### Maintenance Questions

**1. How do you clean and maintain your air-changing system?**

Mill A—"The air-changing unit is blown out in each department by a man in that department.

"The humidifiers are checked daily by schedule. A man in each department removes several heads each day and replaces them with clean heads. The dirty heads are cleaned and repaired in the humidifier shop. This schedule gives us reworked heads twice each year."

Mill B—"Screens are cleaned three times each 8-hr. shift. The units are cleaned once each week."

Mill C—"We use one full-time man to clean our air-changing system. He cleans all outlets in the ducts twice each day and the recirculating screens of the heaters every 2 or 3 hr. Ducts are cleaned once each week. All motors and bearings are cleaned every 6 mo."

Mill D—"We clean the air washers twice a week with a hose pipe."

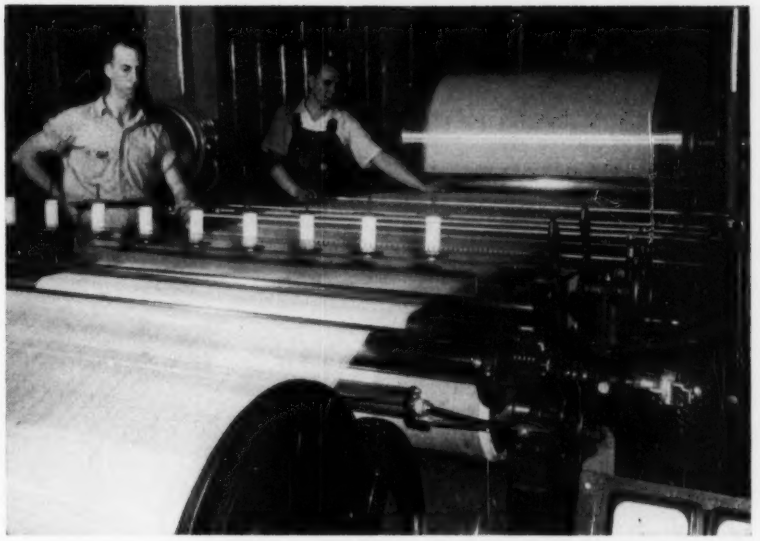
Mill E—"We follow this schedule in cleaning the humiduct:

1. Clean recirculating screens and exhaust louver screens every 2 hr.
2. Wipe outlets twice daily
3. Clean control-cabinet screens once a day
4. Check the operation of the system daily
5. Clean the control cabinet weekly
6. Blow off and clean the intake and intermediate drain pans each week
7. Clean the water strainers, main lines, and orifice housing each week
8. Drain and clean out the recirculating filter tank each month
9. Lubricate the fan and evaporator motor bearings every 3 mo.
10. Clean the intake screens weekly

"To clean dry ducts equipped with atomizers:

1. Clean recirculating screens and exhaust louvers every 2 hr.
2. Check the operation of the system once a day
3. Clean the grills before they become choked with lint

(*Continued on page 202*)



# *A 5-Min. Review of* WARP-SIZING *Developments*

**▶ Three per cent of your cloth-cost dollar goes to warp sizing; yet, warp-sizing conditions may affect weaving costs up to 25%. Do you want to know what has been done and what is being planned to help you control that 25%?**

**By FLOYD A. LEWIS,** Corn Industries Research Foundation

### What Is a Good Sizing Material?

1. A good size will stick to the yarn through weaving and will bind the loose ends of a fiber firmly to the yarn. On acetate-rayon yarns and nylon yarns, the size must prevent abrasion that will result in a loss of luster to the yarn surface.

2. A sized yarn must be strong but flexible. A good sizing treatment protects the yarns under tension and bending in weaving and does not crack and shed.

3. A good sizing material must be uniform from batch to batch. To produce warps that will weave consistently at a high production rate, both slasher operating conditions and sizing material must be uniform from day to day.

4. A good sizing material must be easily removed after the cloth is woven. If the size cannot be completely removed from the cloth, the dyeing and finishing operations will not be successful.

No sizing material will meet all four of these requirements, but starch meets most of them and is the basis of sizes used on cottons, worsteds and woolens, and staple synthetics.

### How Is Starch Being Used?

Some cotton mills have found it economical to prepare their own treated starches by adding enzymes to the size mixture. "Buffered" starch, a starch that contains a small quantity of an acid salt to adjust its acidity to a near-neutral point, is often used. Other mills use acid-treated starches. Oxidized starches came into the picture recently.

Since filament-rayon yarns will not withstand vigorous desizing treatment, white dextrins (treated starches) are used in place of common starches. Dextrins are often added to gelatin and gelatin-glue sizes for acetate yarns.

Some of the treated corn starches have a high resistance to jelling in the size box and also maintain their viscosity within narrow limits. When these sizes are used, warps are uniform.

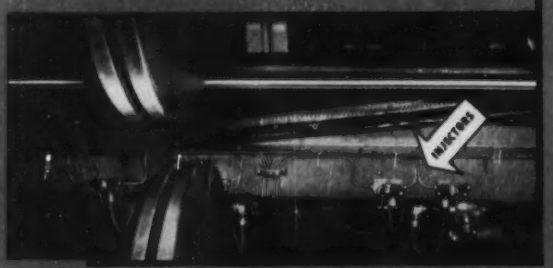
Research by the corn refining industry has resulted in soluble starches that

(*Continued on page 224*)

# Lincoln

## lubricant application system has given us controlled lubrication with least expenditure, and optimum results"

A time clock controlled Lincoln Centralized Lubricant Application System lubricates 128 bearings on each of ten Reiner Tricot Knitting Machines — or 1280 bearings automatically.




- "The use of one single fully automatic pump serving 10 of our Reiner Tricot machines every 45 minutes has given us full control over lubrication from one central source. We plan to extend the System to cover two additional machines in the near future.
- "Prior to installing the Lincoln System, we had to attend individual pumps on each machine. Furthermore, we had no way of checking the quantity of lubricant applied to each bearing. With the Lincoln System, these disadvantages have been eliminated. The finger-tip adjustment on the Lincoln Injectors gives us perfect control over quantity of lubricant applied. Down-time for repairs has been cut 15% with a resulting increase in production rate.
- "No time is required for lubrication with the Lincoln System except to refill the oil drum occasionally which only takes a few minutes. Let's say the Lincoln System has given us Controlled Lubrication, with the least expenditure, and with optimum results."

*Says Frank Brown, Superintendent*
**FISCHER MILLS**

Mill owners throughout all branches of the Textile Industry report unusual savings from Lincoln Centralized Lubricant Application Systems. They are increasing yields, reducing operating costs, and eliminating spoilage due to excess lubrication.

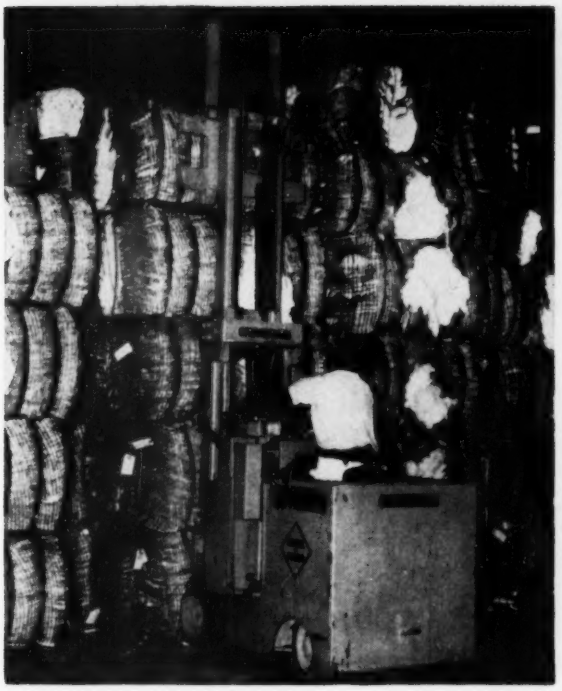
Lincoln's Lubrication system specialists will be glad to give you additional information —and help you select the lubrication system best suited to your equipment.

***WRITE FOR YOUR FREE COPY OF CATALOG 88.***
It describes the complete line of 22 Lincoln Centralized Systems.

• • • PIONEER BUILDERS
LINCOLN ST. LOUIS
LUBRICATING EQUIPMENT • • •

**LINCOLN ENGINEERING COMPANY**
5742 Natural Bridge Ave., St. Louis 20, Missouri

DISTRIBUTED NATIONALLY THROUGH LEADING INDUSTRIAL WHOLESALERS LOCATED IN PRINCIPAL CITIES



A FORK TRUCK stacks bales six high at the Pineville plant. The use of fork trucks increased the height of the tiers from three to six. A fork truck handles up to 80,000 bales per year, in addition to handling processing materials and mill equipment.

BARRELS OF TALLOW are stacked four to a pallet. Before the Elwell-Parker battery trucks were installed, the barrels were manhandled on one level. Barrels and drums of dyes, bleaches, tallows, and oils are handled in loads of 2,000 lb. and over.

# FORK TRUCKS and TRACTORS
## Reduce Handling Time at Cone Mills

▶ Four tractors and four fork trucks at Cone Mills' Greensboro and Pineville, N. C., plants do all the general load handling. Most of the strenuous labor has been eliminated, and some of the warehouse areas have been tripled in capacity; other areas have been doubled. Handling costs have been reduced to a fraction of a cent per ton.

THIS ONE-MAN TRACTOR at Cone Mills' Proximity Plant tows five trailers loaded with four bales each from the warehouse to the mixing room. The tractor and a fleet of trailers serve 15 cotton warehouses at this plant. The trailers are loaded and unloaded with fork trucks.

. . . . . *A neat trick—for finishers of*
## shreinered, embossed or frictioned fabrics

**RESIN DJ** dives into fabrics, penetrating so deeply that a desirable hand is retained without the excessive use of softeners. Resin DJ is especially useful in permanent glaze, fabric stabilization and crush resistant work. It is a UF condensate soluble at low temperatures.

**FIRMEL** being a partially polymerized resin of large molecular structure skates on the surface of fabrics, producing a high lustre glaze and crisp hand. It becomes permanent when used with a catalyst and cured. Firmel dissolves readily and stores indefinitely.

COMBINING the penetrating qualities of Resin DJ with the surface finish of Firmel makes an efficient and very economical formula that lessens fabric deterioration and eliminates resin build-up on rolls. You will find these resins very easy to handle. They are delivered fresh, keep well and dissolve readily at low temperatures. For test samples, write BRYANT CHEMICAL CORPORATION, N. QUINCY 71, MASS. or Box 2301, SPARTANBURG, S. C.

**Brytex PRODUCTS**

# 6 Questions on Processing Synthetics On the Woolen System

▶ Here are the answers to six questions submitted by a reader of the article on processing synthetics on the woolen system that appeared in TEXTILE WORLD, September, 1952, p. 80. The questions have been answered by the author, Robert A. Smith, Textile Research Dept., American Viscose Corp.

## 1

*"The simplest way to be sure that the stock [synthetic fibers processed on the woolen system] is not overpicked is to employ two types of pickers. The first, the type usually recommended for synthetics, is equipped with straight pins that resemble nails. . . . The second type should only be used for the wool content or a blend containing wool."*

**Q: Woolen mills usually have two kinds of pickers, the Fearnought picker and the Atlas picker. The Fearnought picker has too many teeth and the Atlas picker does not always have straight teeth. What can a mill do with the picker it has?**

**A:** It should not be too much expense to buy a set of straight pins for the Atlas-type picker. We can only reiterate our opinion that synthetic fibers do not need to be worked extensively in picking and every effort should be made to avoid doing so. Some wools may need a Fearnaught picker to open them properly, but we do not recommend that 100% rayon be put through the Fearnaught. In fact, unless it is absolutely necessary to prepare the wool content properly, we would not put even a blend of wool and synthetic fibers through a Fearnaught.

## 2

*"The viscose or acetate will pick up the emulsion from the wool without becoming thoroughly soaked. . . . The emulsion should be made up of 40% oil and 60% water."*

**Q: What oil should be used for emulsification, mineral oil or the expensive olive oil or seed oil?**

**A:** For rayon it is probably better if olive oil is not used. Most of the vegetable oils have a tendency to oxidize, and if the stock or roving must be kept for any length of time it will become more tacky. Rayon has enough natural drag without adding to it. Many textile oil companies make oil products that are very suitable for rayon.

## 3

*". . . the fiber manufacturers put on their own type of fiber lubricant. Most of these lubricants contain an antistatic agent. If you are going to embark on any large program of evaluating the newer synthetic fibers, equip your cards with static eliminators."*

**Q: Why equip the cards with a static eliminator if the fibers already are prepared with an antistatic agent?**

**A:** Controlling static by antistatic agents is still a young development and not all antistatic agents will work under all conditions; hence, the safeguard of a static eliminator.

## 4

*"Make more frequent and lighter drops and speed up the feed rolls to compensate for the lighter feed."*

**Q: Speeding up the feed rolls means the card has to chew up the material to get the proper weight of the roving. Why take chances and risk an uneven roving?**

**A:** If a card is producing any given pounds per hour, the same weight must enter through the feed rolls per hour. There are two ways this can be done: (1) A heavy weight on the feed table can be entered through the feed rolls slowly, or (2) half the weight on the feed table can be entered by having the feed rolls go twice as fast.

In the first instance, larger masses of stock are released from the feed rolls and must enter the working part of the card. In the second instance a thinner sheet of material is entered more rapidly (but at the same total pounds per hour). It seems to me that less chewing up would be done in the second instance; in fact, we find that the majority of fiber breakage occurs at the feed rolls because the stock is held firmly and in a tangled condition and is met at that point by a rapidly moving lickerin. Hence, the faster the feed rolls let go of the fiber the less fiber should be broken.

In my mind, there is less chance of producing an uneven roving by feeding small increments than there is by feeding large ones.

## 5

*"The average length of the synthetic fibers in a blend . . . is usually longer than the average length of a wool fiber . . . and the blend [should] not contain too many fibers that are longer than the width of the tape will accommodate."*

**Q: The width of the tape is dependent on how many good ends the tape condenser has. How many 3-den. fibers can a 60-in. tape condenser with 120 good ends take?**

**A:** Since you can't change the width of the tape, you must accommodate the length of your fiber to the tape you are working with. When stapling the length of wool fibers you will naturally find fibers of a wide range of lengths. Therefore, we are forced to speak of the mean or average length of such a wool. If we say the average is 2 in., we mean that approximately 50% of the fibers are from 2 in. to 4 in. The other half of the fibers will be from 2 in. to perhaps ½ in. in length. This is quite different from a 2-in. synthetic where all of the fibers are 2 in. It will naturally make a difference when the tapes split a web whether all the fibers are relatively long or only a certain percentage of them. It is better to specify a synthetic-fiber length that is shorter than the optimum rather than longer.

We have tapes that are ½ in. wide and have spun yarn as heavy as 1⅜ run. We never exceed a 2-in. staple and would prefer a 1⅞-in. staple. Converting 1⅜ run into denier, we find that 2,600 yd. equals approximately 1,700 den. Divide this by three deniers per filament and you have 566 filaments per yarn cross section.

## 6

*"The slipperiness of a fiber is affected by the different finishes. If the fiber is too slippery, a lighter roving will have to be made."*

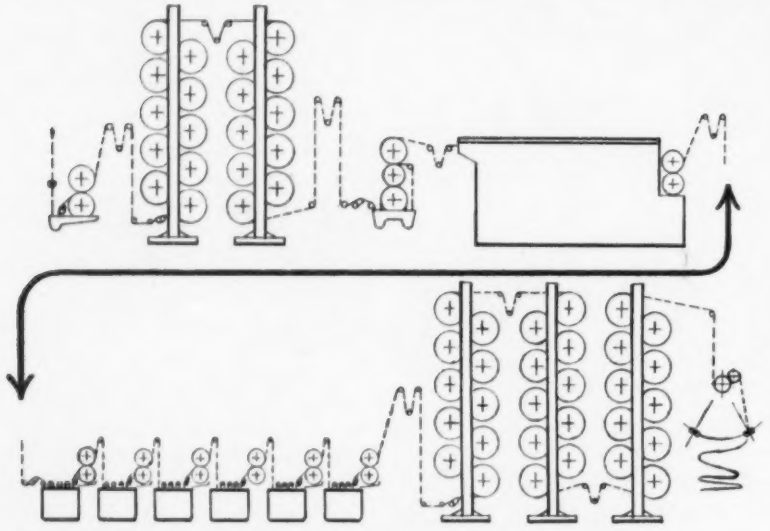
**Q: The weight of the roving de-**

(Continued on page 218)

(*Advertisement*)

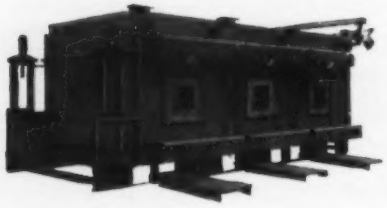
# Cook P&N STEAM-PAD DYE RANGE

## For All Fabrics and Warp Dyeing



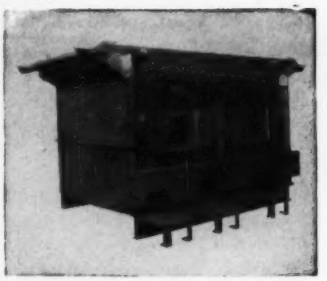
We now have in operation ranges of from 50" to 110" face on cotton, rayon, acetates, corduroys, wool blends, etc. From our own shops we can supply modified or complete ranges to fit your requirements.

## COOK Internal Tension Control (Patent Pending) makes possible successful operation of any size Ager

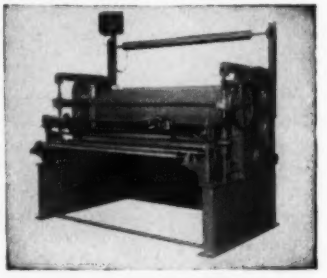


Our latest addition to the COOK Steam-Pad Dye Range is an Ager (5623–1) with *automatic internal tension control* (Pat. Pend.) which permits processing of even fine rayons without damage. This machine has an entrance seal which really seals, a steam-heated ceiling which really eliminates drips and provides uniformity of steam conditions. Many millions of yards of broadcloths, corduroys, work clothes, wide sheeting, rayon dress goods and even wool blankets have been processed through COOK Steamers. From the very beginning of the Steam-Pad Dyeing Process, COOK has played an important role in its successful development. Individually or as a complete range the representative machines shown here can be relied upon to produce a maximum amount of goods per dollar invested.

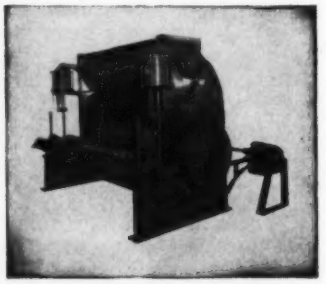
All COOK machinery is fabricated in our own shops allowing design flexibility *without* premium cost. Stainless steel fabrication eliminates broken castings and factory-made repair parts. All machines are guaranteed to perform as specified. Your request for information will receive prompt attention.



**COOK Continuous Desizing Ager (4860-1)** provides a uniformly saturated atmosphere and handles the material without wrinkling or excessive tension. Smooth flow with COOK Automatic Tension Control (Pat. Pend.). Entrance and exit steam seals which really do seal. Made in floor or ceiling type. Also available as combination Desizing and Dyeing Steamer.

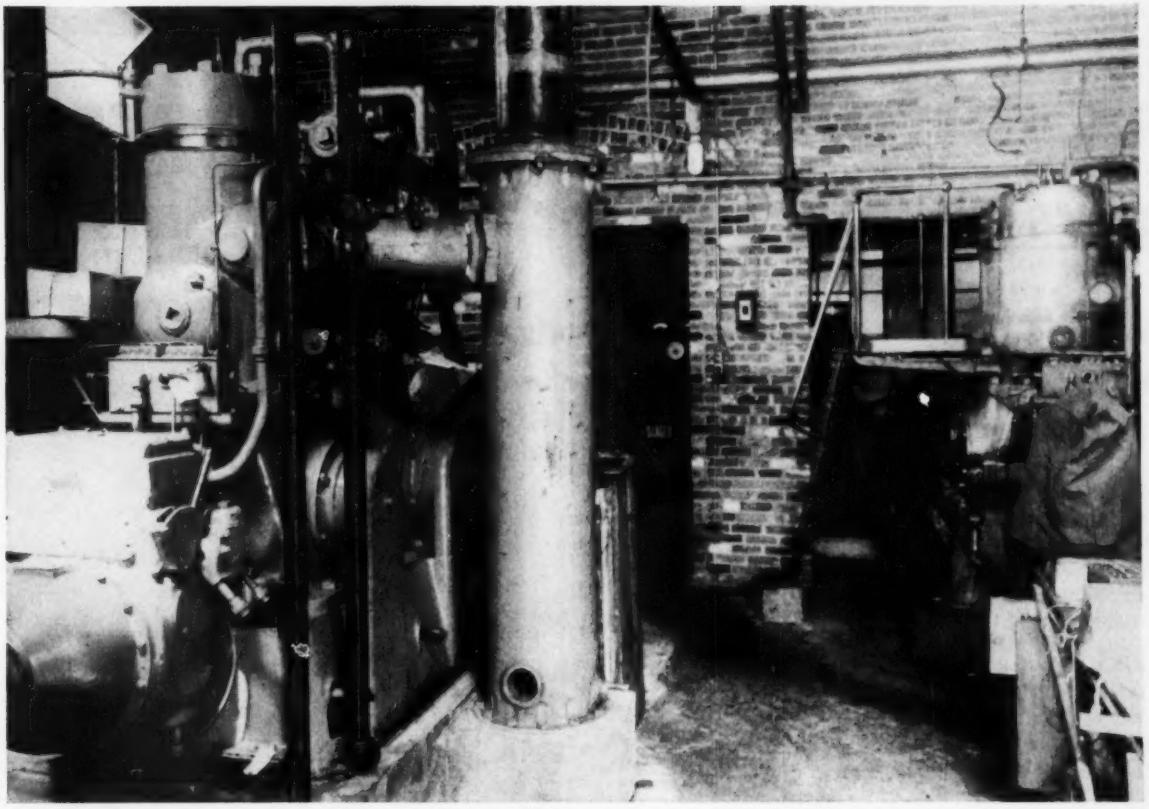


**2 Roll Padder (5602-2)** Sturdy box-type frame, fool-proof pressure control and reliability make this padder increasingly popular where absolutely level padding is required. The lever-set pressure control is greatly improved to eliminate any binding and includes a new design roll separator. In 5, 10, or 15-ton capacity and any desired width.



**3 Roll Padder (2947-1)** Pneumatic pressure control with latest air cylinder design provides uniform and accurate pressure on each side. Single or dual control panel. Nip roll designs engineered to eliminate deflection. Rolls mounted in self-aligning spherical bearings. In 5, 10, or 15-ton capacity with infinitely adjustable pressures. Any desired combination of stainless steel and rubber covered rolls.

COOK-P&N MACHINE CO., INC., 365 Dorchester Ave., Boston 27, Mass.



NEW 150-HP. DIESEL ENGINE (at left) was installed to supplement the 6-yr. old diesel (at right). The owner estimates that he is saving 40% of his power and lighting costs by generating his own current.

# Garnetting Plant Saves Money With Deisel-Driven GENERATOR

**HIGHLIGHTS: Lower power costs and greater operating flexibility are shown with a plant-operated diesel generator. The 150-hp. engine, which uses No. 2 fuel oil, furnishes electricity for lighting and processing. Little attendance is necessary, and maintenance costs have been low.**

**By E. H. HELLIWELL,** Contributing Editor, TEXTILE WORLD

THE OWNER AND MANAGER of a garnetting plant that has four garnetts with auxiliary machinery finds that his power costs are so low with his diesel-driven generator that he is installing another unit of the same type to take care of increased power needs. The plant operates 24 hr. a day for six days a week, and the owner estimates that he is saving 40% of his power and lighting costs by generating his own current. This cost includes fuel, maintenance, operating expense, and depreciation.

## Operating Costs Are Low

Maintenance expense on the present 150-hp. diesel engine for the past 6 yr. of operating has been confined entirely to labor costs for the regular annual overhauling. No major repairs or replacements have been necessary during this time. Operation of the plant has been continuous—seven days per week—for long periods. No operating time has been lost from generator or line failure. No attendance labor cost is charged to the generating set's operation because automatic controls make little attention necessary. Checking of lubrication and other services are done by the regular operating personnel. Overhauling every 12 mo. is done by the shop mechanic and helpers.

The engine used for the past 6 yr. is a Fairbanks-Morse Model 32-E, and the new engine being installed is the same make and model. The two-cylinder diesel runs at 360 rpm. and

(*Continued on page* 218)

# Alemite "Friction Fighters"

## save $2000 a year for steel company!

### ...add 30 minutes' operating time daily, end bearing failures and lubricating hazards

A mammoth traveling crane carrying tons of steel making constant stops and quick returns. Here—friction's wear and tear posed a costly problem in bearing replacement. Shutdowns were frequent. Delays cut into operating time.

To end this problem once and for all—plant engineers called in an Alemite "Friction-Fighting" specialist. Specific requirements were discussed in detail. Past difficulties were reviewed. Recommendations were made, and an Alemite Mechanized Lubrication System was installed.

This action brought immediate four-way savings: Eliminating lubrication down-time added 30 minutes daily productive use of the crane—time worth $9 a day, $2000 per year. 60% less grease was used. Expensive bearing replacements were eliminated. Also, the 60 foot climb to lubricate out-of-the-way bearings in dangerous locations was eliminated.

Conquering friction is Alemite's business—cutting costs, decreasing down-time, increasing profits. An Alemite Lubrication Engineer can show you ways of making savings. Contact your local Alemite Distributor now.

### Alemite—the great name in lubrication serves the great names in industry

Wherever metal touches metal, wherever you find machinery in motion, you're most likely to find Alemite Lubrication and Lubrication Systems on the job. Here are but a few of the industrial leaders who use Alemite.

**Eastman Kodak Company • Procter & Gamble**
**Boeing Airplane Company • Swift & Company**
**International Harvester Company**

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# ALEMITE

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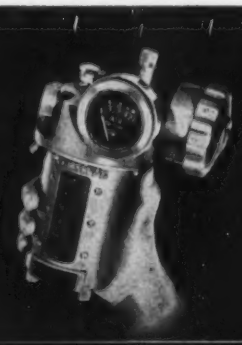
*35 Years of Lubrication Progress*



### Alemite "Oil-Mist" Lubrication—another amazing "Friction-Fighting" Development

This most efficient, continuous, fully automatic system in all the field of machinery lubrication atomizes oil into mist—distributes it through tubing to bearings—bathes *all* bearing surfaces with a fresh, clean, cool oil film. Cost of machinery lubrication is cut materially. Human element eliminated.

*Please send me* ***FREE*** *New Booklet*

☐ "11 Ways to Cut Production Costs."

☐ Include Facts on "Oil-Mist"—the amazing new system that atomizes oil, circulates it to bearings under pressure.

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# PROSPERITY in the USA: Who Has It?

How prosperous *are* the people of the United States?

The previous editorial in this series answered this question for the average American. His prosperity has increased only slightly in recent years.

But the average tells only a part, and in many ways not the most important part of the story. Which individuals and groups have prospered more, which less? (The average, the result of a statistical calculation rather than a creation of flesh and blood, tells nothing about that.)

The purpose of this message is solely to get at the facts on this question of how prosperity is distributed. This is not easy. In spite of the crucial importance of the subject, the available information is limited. Even so it is possible to provide a rough answer to the question, "Who has the prosperity?"

## We Have Had a Revolution

The distribution of income in the United States has changed so greatly in the past twenty years that Arthur F. Burns, Research Director of the National Bureau of Economic Research, world renowned for its impartiality and technical competence, calls it "one of the great social revolutions of history." A part of this revolution is portrayed by the following table which shows that individual incomes are both much larger and much more evenly distributed than they were twenty years ago. Clearly, a large new middle-class has been created.

**DISTRIBUTION OF REAL INCOME**

| Dollars of Income* | Per Cent of Families in Each Income Group | |
|---|---|---|
| | *1929* | *1951* |
| Under 1,000 | 17% | 13% |
| 1,000 – 2,000 | 24 | 15 |
| 2,000 – 3,000 | 24 | 18 |
| 3,000 – 4,000 | 14 | 18 |
| 4,000 – 5,000 | 6 | 15 |
| 5,000 – 7,500 | 9 | 14 |
| 7,500 and over | 6 | 7 |
| | 100% | 100% |

*Adjusted for price changes to give the dollar its 1951 purchasing power.

Some light on why this income revolution has taken place can be found by tracing incomes to their source. Since 1929, for instance, employees have clearly made the biggest gains in total income. This can be seen in the next table. People who own their own businesses have done second best. Farmers, who are often thought to be doing handsomely indeed, have been outstripped in the income race by employees and businessmen. People whose incomes depend upon pensions, insurance policies, and other relatively fixed returns such as rent, interest and dividends have lagged far behind.

**HOW REAL INCOME HAS CHANGED***

| Types of Income | Percentage Change 1929 to 1951 |
|---|---|
| Wages & salaries of employees. | +123% |
| Income of professional men & unincorporated business .... | +108 |
| Farm operators' income ..... | +56 |
| Rental income ..... | +1 |
| Dividends ..... | +2 |
| Interest ..... | −35 |

*In this and the previous table account is taken of changes in the cost of living. But adjustment for the changing tax load was not possible, as it is in the computations which follow.

## The Biggest Gains

Employees have made the biggest gains in income, but the term "employees" covers a wide assortment of people—from the presidents of the biggest corporations to factory sweepers. How have different groups of employees prospered? Some indication is provided by results of a survey of salaries in 41 corporations made by Arch Patton of McKinsey and Company and recently summarized in the *Harvard Business Review*. This survey showed that between 1939 and 1950, after adjustment both for higher living costs and for higher taxes, factory and office employees made modest gains in income while management personnel suffered losses ranging from 40% to 60%.

While factory and office workers generally have made greater income gains than others, their gains have varied greatly from industry to industry. During the past five years, for example, steel workers' take-home pay (adjusted for both taxes and price changes) has increased by 22%, that of textile workers 9%, employees of general merchandise stores 4%, and that of laundry workers not at all.

## What About Organization?

How have organized workers fared compared to unorganized workers? There is no round-up of facts that makes possible a direct comparison between the two. Such evidence as there is shows it is indeed an open question whether union members have done any better than others. Steel workers, for instance, who are strongly unionized are among the highly paid manufacturing workers. Farm workers are generally not unionized, and they work in one of the most competitive industries in America.

But farm workers have made income gains which far surpass those of steel workers. Real wages of farm workers increased 2½ times more than those in the steel industry between 1939 and 1952. This fact may prove nothing more than that, in a period of inflation and manpower shortage, the less skilled workers whose incomes are ordinarily low make the biggest percentage gain in income. Further support for this conclusion is found in the construction industry where real wages of unskilled labor increased 37% between 1939 and 1952, while those of skilled labor increased only 4%.

## Why Most Incomes Are Higher

Prosperity, who has it? We may conclude that workers have been getting much more of it lately than managers or property owners, that unskilled wage and salary earners have made the largest gains, and that income generally is much more evenly distributed.

Where has the money come from to raise low bracket incomes? It has come partly from an increase in the total national income, but partly also from cutting down the share received by people in the highest income brackets. While the top 5% received 33.5% of the income after taxes in 1929, their share of income has now been cut about in half. For every $11 of increase in income to the lower 95% of income receivers, about $7 has come from increased production, and about $4 by taking that amount from the top 5%.

Top bracket incomes have now been cut so deeply that the possibilities of increasing the income of the rest of the people by "soaking the rich" have largely disappeared. Indeed, if all of the income after taxes of everyone earning over $25,000 in 1951 was taken away and redistributed among the remaining Americans, each person would receive only about $65.

The significance of this revolution in income distribution is clear. It is that there is only one way by which the great mass of us Americans can continue to increase our individual prosperity. This is by earning the increase through more and more efficient production. In plotting the economic course of the U.S.A. this fact is of decisive consequence.

***McGraw-Hill Publishing Company, Inc.***

TEXTILE Equipment NEWS

## Two New Looms Are Designed To Mix Filling

Two new looms that will weave 75% of all styles of worsted, woolen, and blended fabrics are being built by Crompton & Knowles Loom Works, Worcester, Mass.

According to C&K, the new looms contain the smallest possible number of moving parts and are built rugged enough in the frames and driving parts to weave any conventional worsted- or synthetic-type fabric.

Features of the two looms are:

1. The length between the lay swords is 82 in. Cloth up to 76 in. wide may be woven.

2. The looms are for two-by-one filling-mixing weaving only and are equipped with box motions of the positive geared or the cam type.

3. The driving motion may be selected from the cork-friction type or the double-plate-friction type. A single-piece crankshaft is of 2⅛-in. dia. and has a throw of 6½ in. The bottom shaft is of 2⅞-in. dia. and is made in two pieces. The shaft is driven from the crankshaft by a gear at each end.

4. The picking motion may be either the bat-wing or cone type.

5. The center stop motion may be one of two types:

a. The standard type, set off the center of the lay 6 in. toward the drive end.

b. Two individually operating stop motions may be placed 24 in. apart to prevent portions of broken picks.

A Micro Switch has been added to the filling stop motion to stop the loom through the warp stop motion. If the filling stop motion fails to operate at a broken pick, the Micro Switch will cause the loom to stop on the following pick.

6. The lay is assembled on a heavy steel angle that extends from one end of the lay to the other. All outboard parts, including the shuttle box, are supported by the steel angle.

7. Backstays with glass rods prevent damage to the warp yarns.

8. The two-cell shuttle box is built for a shuttle 17½ in. long by 1⅛ in. wide by 1½ in. high. An 8¾-in. bobbin with a 1⅝-in. maximum-wound diameter is used.

9. A loop-type picker, slotted-type checkstrap, picker-foot parallel motion, and back binder are used on the drive end of the loom. A new-type drop-box picker, which is equipped with a floater, is supported by a ⅝-in.-dia. picker rod.

10. Newly patented binders at both ends of the loom control shuttle boxing and contribute to increased loom speed and better-quality fabrics.

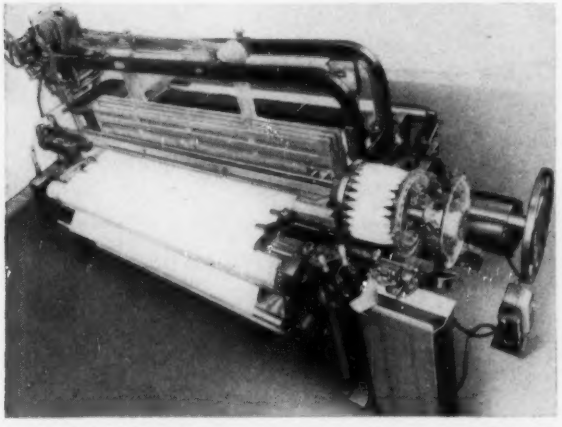
11. A scissor-type thread cutter, another new development, operates at the eye of the shuttle to eliminate jerkbacks. A new-type temple thread cutter also reduces jerkbacks because it cuts the filling on the exhausted filling bobbin on the first pick after the transfer and cuts the filling on the new bobbin on the second pick.

12. A rotary magazine with a capacity of 22 bobbins of filling is operated by a cam on the bottom shaft. The magazine can be set for 8¾-in. bobbins or for 8-in. bobbins if a mill wishes to use its old bobbins.

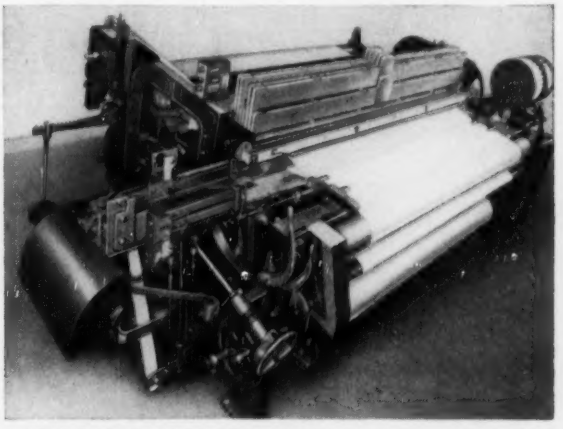
13. Two electro-mechanical feelers that operate on wooden bobbins are placed on the drop-box end.

14. A let-off may be selected from the several C&K types. Beam diameter up to 32 in. may be used.

15. The all-purpose take-up is recommended for these



**A ROTARY MAGAZINE and a simple 2 x 1 box motion along with link-type binders make it possible to weave 76-in. cloth on this 82-in. loom at 169 ppm.**



**AN END-CAM HARNESS MOTION with a harness capacity of eight double-heddle harnesses results in an archless loom that weaves all conventional fabrics at low cost.**

looms, but other types can be furnished on special order.

16. Electric warp stop motions of two to eight banks are furnished. Safety signals are part of this stop motion.

The harness motion may be selected from the Knowles head, dobby, or a newly designed end-cam mechanism. The end-cam harness motion is equipped with harnesses that have two heddle bars and two lines of heddles per frame.

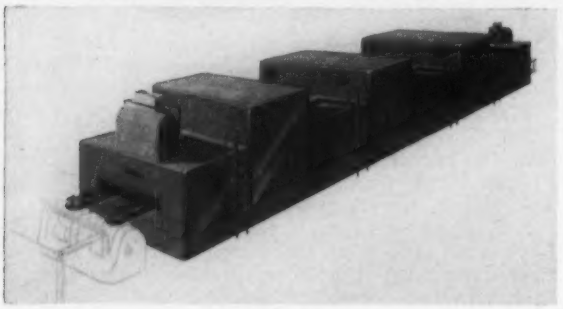
Cams are available to give four, five, or six picks to the round. This range of harness designs will weave fabrics such as 18-oz. Army serge and 2x2 twill up to 6,426 ends.

The harnesses receive their vertical movement from cams at the dropbox end of the loom through connectors and angle levers. Pull-down springs lower the harnesses and also keep the harness-motion parts under proper tension.

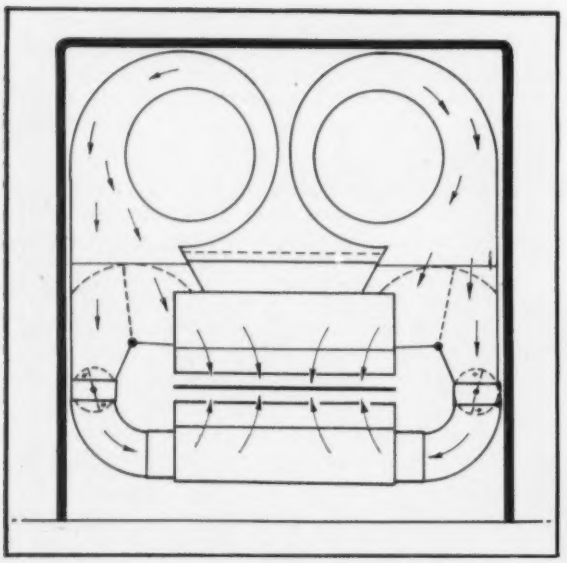
Since there is nothing over the harnesses, waste and dirt in the woven cloth is reduced.

The manufacturer says that because of the high speed and low maintenance cost, these two looms weave conventional fabrics more economically than any other loom they have built.

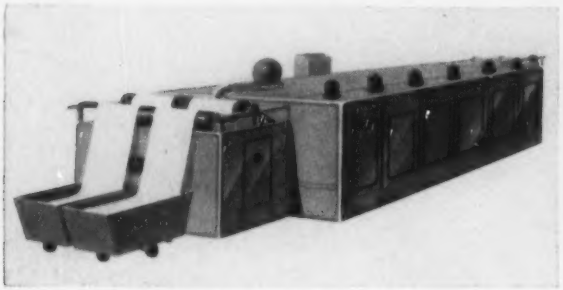
## New Drying and Wet-Processing Ranges Available



Tenter housing



Cross section of two fans and adjustable air flow



Loop dryer-curer

The following equipment has been developed by Proctor & Schwartz, Inc., 710 Tabor Road, Philadelphia 20, Pa. As is the standard practice of the builder, units can be adapted to specifications to meet individual mill requirements.

### Tenter Housing

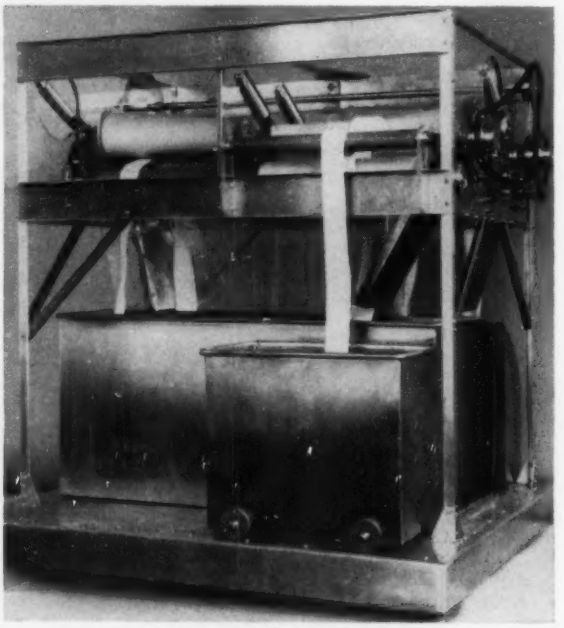
A new tenter housing features a redesigned heating and fan system that makes possible highest tenter-housing efficiency. Two fans are used in each penthouse to give the maximum air movement and drying capacity per foot of tenter-housing length ever offered. Air circulation is at the same time adjustable to suit individual conditions.

The design provides for complete accessibility to the interior of the housing for cleaning and maintenance purposes. A new type of panel construction as is used on the loop dryer is standard with the new tenter housing.

As a replacement for out-of-date equipment, the new housing is said in many cases to increase finishing-department output 50 to 100%; thus the installation often pays for itself in two years.

### Air Slasher-Dryer

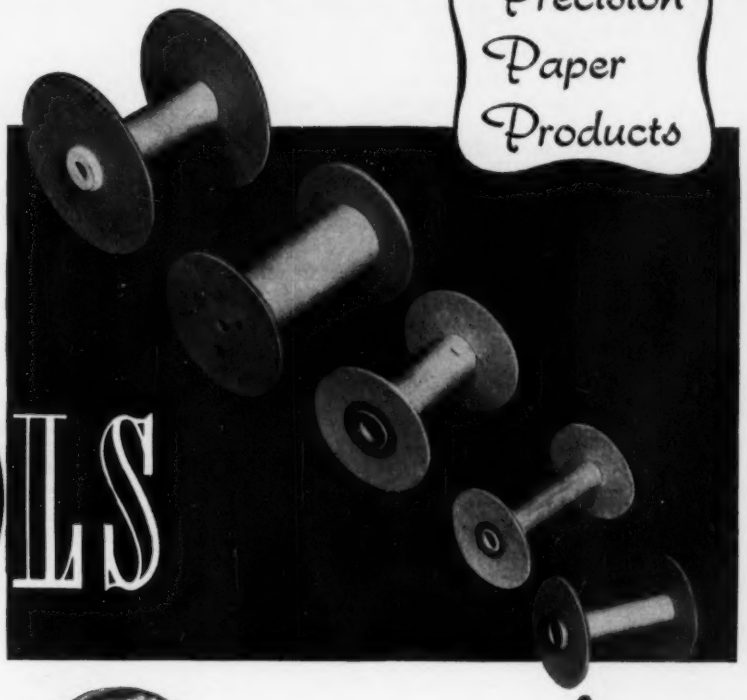
The Proctor air slasher makes possible productions up to 1,000 lb. per hour. The air dryer can be used equally

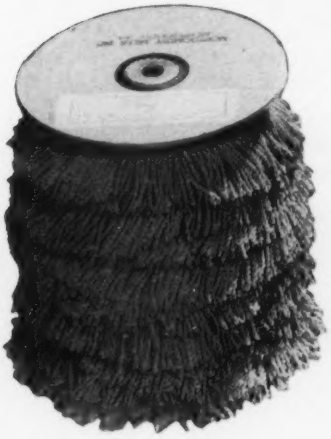


Con-o-matic slack washer

Precision Paper Products

# SONOCO SPOOLS





Specifically developed as perfect carriers for all types fringe, tapes, braid—narrow or wide fabrics, threads, yarns, cord and rope. SONOCO has a spool to give you an efficient, low cost package. All standard types and sizes, or made to your individual requirements in special sizes.

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## SONOCO PRODUCTS COMPANY

MAIN OFFICE—HARTSVILLE, S. C.

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PHILADELPHIA, PA. GARWOOD, N. J. LOWELL, MASS. GRANBY, QUE.

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well on cotton, wool, spun synthetics, and blended-fiber yarns.

Dimensions of the unit are: approximately 14 ft. long, 9½ ft. wide, and 12½ ft. high. The speed range for warp ends going through is of course variable.

Other features of the unit include:

1. Wet splitting of the warp at entering end
2. Patented air-flow nozzles that give mild action
3. Direct motor-driven fans
4. Lint screens and heaters readily accessible
5. Exhaust fan
6. All-steel construction and smooth inside finish

### Tubular-Knit-Fabric Bleaching Range

A continuous conveyor-type bleaching range for tubular-knit fabrics has been designed and made available that will give top performance for average-size mills that wish a production of approximately 1,000 lb. per hr. By means of the new unit, tubular-knit fabric is carried through the steaming unit in a relaxed state. The unit is designed to replace kier and J-box bleaching.

Excellent bleach, with the least possible tension from start to finish, is obtained by use of the range in conjunction with the new Con-o-matic washer (as described in the adjacent column) embodied in a saturator and as a final washer.

### Loop Dryer-Curer

A newly designed loop dryer-curer makes possible the efficient drying of spun rayons, silk piece goods, toweling, terry cloth, and similar fabrics as well as the proper curing of resin-impregnated fabrics.

Utilizing a new type of fan that controls air movement closely, the loop dryer gives (1) maximum production with minimum power requirements, (2) even drying for a wide variety of fabrics, and (3) circulating air that is adjustable to varying drying conditions.

As with the air slasher-dryer, lint screens, heater coils, and direct-driven motors are readily accessible. The new type of ingeniously fitted panel construction presents a smooth unencumbered surface both inside and out.

The design of the loop dryer-curer has been standardized enough for short delivery. Available widths are 6, 8, 10, and 12 ft.

### Slack Washer

A new slack washer, shown in model form for the first time at the 1952 Greenville Show, is said to have many advantages over conventional slack washers. It has been named the Con-o-matic.

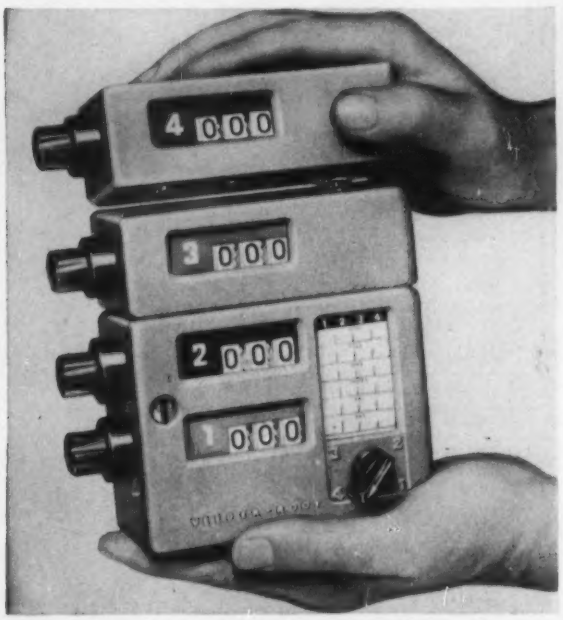
Self-compensating rolls keep an even amount of tubular-knit fabric in each tank, without any effort from the operator. Tapered squeeze rolls (patent applied for) keep the tanks filled with fabric to the desired level and thus insure tension-free operation.

Because there are no elaborate drives involved in obtaining the desired synchronization between tanks, there is considerably less maintenance required.

The Con-o-matic washer is also adaptable for use as a saturator, desizer, or dyeing unit. It can in fact be used wherever fabrics are to be processed in liquid. It has been used so far only with rope goods.

The manufacturer is prepared to discuss further uses, such as scouring, fulling, or pressure dyeing.

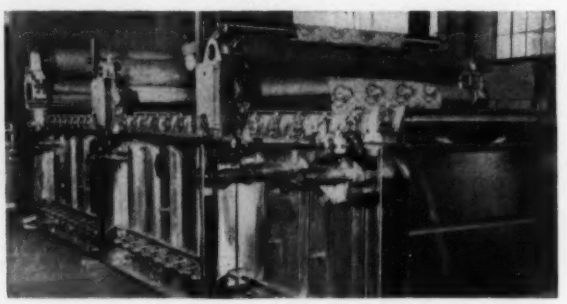
## New Design Counter for Picks, Hanks, Yards, Courses




**EASIER-TO-READ 2-3 convertible counters manufactured by Veeder-Root Co., Hartford, Conn., and Greenville, S. C., have larger windows as well as shear-pin-proof black plastic reset knobs that are easier to turn.**

**Internally, the counters feature brass bearings on horizontal shafts and Oilite bronze bearings on vertical drive shafts. A plastic drive connection is another improvement over the former cast-iron unit in its ability to withstand humidity, shock, and wear.**

## Tensitrol Washer Improves Rayon-Fabric Boil-Off



**NEW USES of the Tensitrol washer have been found to include the boiling off of size, resin treatments, and water-repellent treatments. More regular crepe effects can also be obtained.**

Additional uses are being found for the Tensitrol open-width washers manufactured by Rodney Hunt Machine Co., Orange, Mass., in the boiling off of rayon fabrics.

The three- and four-compartment washers allow the fabric to obtain sufficient initial shrinkage during the boil-off process to be ready for dyeing in rope form without danger of rope marks and crack marks. Excellent results have been reported on spun-rayon fabrics as well as on many plied-yarn crepe fabrics.

Interesting results have been reported on crepe fabrics. It has been found that on many fabrics a more regular crepe effect is obtained when goods are boiled off on the open-width Tensitrol washer than with conventional boil-off machines. Still other crepes have been produced with an entirely different surface appearance than is usual.

More work is contemplated on the new surface appearances to establish their possibilities more definitely.

# *Long Service . . .*

Textile Spring-Beard Needles are strong — to assure you of long service. A special steel formula — plus superior tempering — plus automatic and electronic manufacturing controls produce needles with dependable strength at the butt, at the beard, at the shank. Here is balanced strength for today's high-speed knitting machines.

You'll see the advantages of Textile Spring-Beard Needles in the top-quality fabrics they produce.

**TEXTILE MACHINE WORKS, READING, PENNA.**

## *Textile*
## SPRING-BEARD NEEDLES

*For Full-Fashioned Knitting*
*For Tricot Knitting*

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## Electrostatic Charges Measured Instantly, Directly

The Statigun, a new instrument that safely measures electrostatic charges generated in manufacturing on a dial calibrated from 0 to 2,000 volts per foot, is available from Herman H. Sticht Co., Inc., 27 Park Place, New York, N. Y. The adjustable sleeve also makes possible readings of 1, 10, and 100 times the scale reading.

The instrument operates on the principle that a small voltage, proportional to that being measured, is induced by capacitive coupling onto the grid of an electrometer valve. The anode current of the valve is measured by an indicating device, calibrated to read in terms of the inducing voltage divided by the distance the instrument is from the source.

Measurement is thus of voltage gradient, or volts per foot. Readings are multiplied by the distance in feet between the object and the instrument.

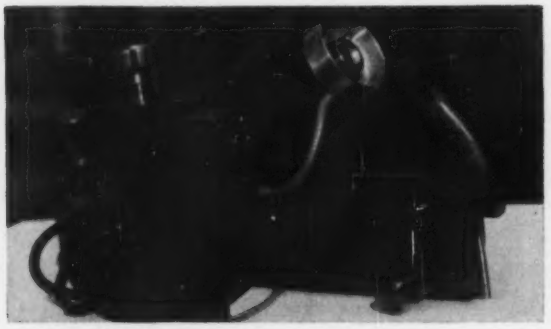
Constructionwise, the instrument's body and grip contain the batteries, switches, adjusting rheostats, and the dial. The "pistol barrel" contains the hermetically sealed electrometer valve, the capacitance coupling plate, a gravity-operated setting switch, and a sliding member that controls the instrument's sensitivity.

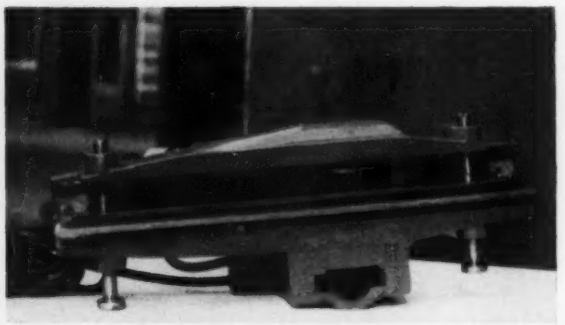
A carrying case is provided.

The instrument was first seen at the recent AATCC national convention.

**DETECTING AND MEASURING** electrostatic charges generated in textile processing is done by pointing the Statigun at the suspected object and reading the good or bad news on the indicating dial.

## Doctor-Blade Grinder for Roller-Printing Machines





**SIDE AND BOTTOM VIEWS** of a portable European doctor-blade grinder show how the unit has been designed by its manufacturer, Cheskova Ltd., Mawdsley St., Bolton, England. The grinder is said to be sufficiently low in price to warrant its being an accessory in every roller-printing establishment.

Essentially the grinder consists of an internal grinding wheel (a truncated cone running at 10,000 rpm.) and drive, fitted for various angles of bevel and depths of cut needed for differently damaged doctor blades. The depth of cut and crowning can be adjusted while the machine is running, in increments of 0.002 in.

The body of the machine is like a double slide, with machined faces to run on the doctor shears. An adjustable vertical machined guide supports and cools the doctor blade, which is held by a pair of spring-steel shoes.

Grinding action is smooth; and the blade metal is worked up to the edge to obtain maximum hardening and abrasion resistance.

## New Size Cooker-Homogenizer Prevents Starch Breakdown

A new method for preparing warp sizing that combines the advantages of cooking and homogenizing size and incorporates the use of a Viscometer, so that each batch is finished to a fixed viscosity, has been developed by Norcross Corp., 247 Newtonville Ave., Newton 58, Mass. The equipment as such is called the Sizeometer.

The schematic drawing on page 152 shows the equipment arranged for the new method of preparing size.

A pump is used to withdraw size from the lower end of the cooking kettle and to discharge it into a mixer within the cooking kettle. The steam is also discharged in this mixer so that the size is agitated and actually cooked under pressure. The pressure built up in the mixer by the combined effect of the steam and the pump provides the advantages of pressure cooking and also extrudes the size from the mixer into the cooking kettle through orifices that further break down the size globules.

The combined effect is smooth, uniform size in approximately one-third the normal cooking time.

The Viscometer controls the entire process, turning off the steam and stopping the pump when the size is finished to the correct viscosity.

The Sizeometer is a package unit consisting of a measuring element, recorder-controller, pump, power-operated

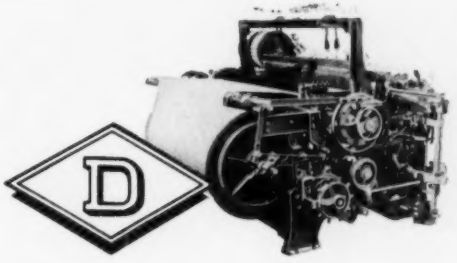
# NOW... Finer Quality Cottons

## FROM DRAPER X-2

## with CENTER FORK FILLING MOTION and RATCHET TAKE-UP

The Draper X-2 Model with the new Center Fork Filling Motion and new Ratchet Take-up will give you matched pick goods of the same quality produced for years in synthetics on Draper XD looms.

High Speed Movies, taken at 3000 frames per second, show the action of the center fork on a filling break. The loom stops on the broken pick.

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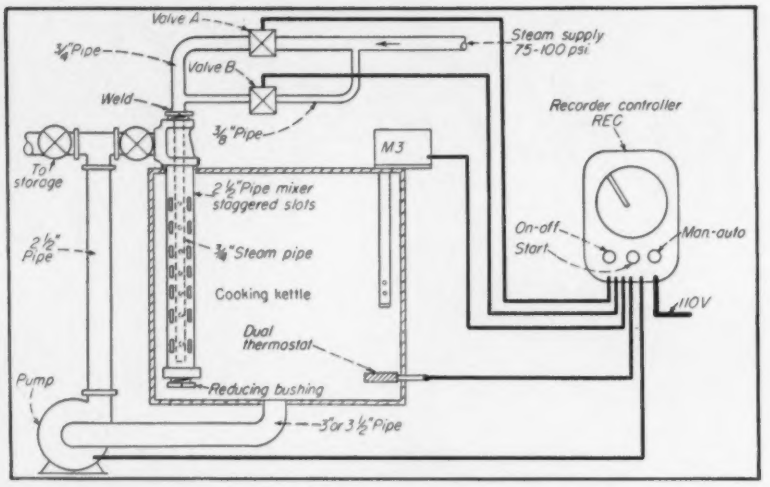
valves, and a dual thermostat.

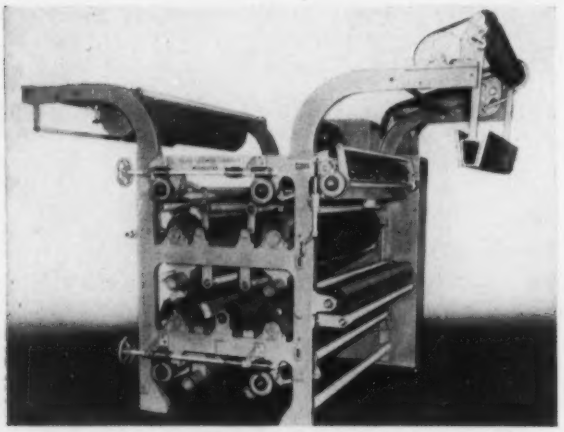
Benefits claimed from the new equipment are:

1) The size is prepared in approximately one-third the normal cooking time.
2) A smooth, uniform size controlled to the correct viscosity is automatically produced.
3) Viscosity of each batch is recorded by instrument.
4) The agitation under high pressure reduces large particles to uniformly smaller particles. Because of this reduction, the size does not continue to break down in storage and in the size box like conventionally cooked size.
5) Thin-boiling starches can be replaced with pearl starch in most cases when they are prepared by this method.




**SIZEOMETER builds up pressure by steam and pump and then extrudes warp size through orifices that further break down the size globules.**

## Steam Brush for Use in Clearing, Softening Fabrics



**BRUSHING AND SANDING EFFECTS can be duplicated on fabrics at any time on this machine with indicator-reading control of the contact adjusters.**

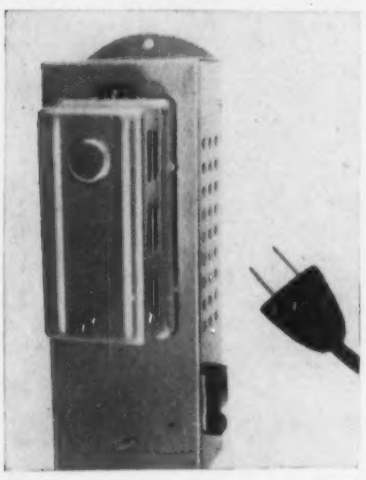
A new four-cylinder ball-bearing steam brush has been developed by David Gessner Co., Worcester, Mass. It was designed specially for use with fabrics that must be cleared out and softened.

The two 16-in. brushing cylinders, clothed with nylon bristles, and the two front brushes with a combination of nylon bristles and sandpaper slats are balanced to withstand high speed. A positive, encased chain drive on these cylinders eliminates both belt slapping and slipping when the machine is running.

Centralized lubrication is standard and greatly reduces maintenance costs. Dust collectors are installed under each of the brushing cylinders, including the spiral, nylon-bristle back brush. Because the steam pot is located overhead, no steam blows on the machine.

Automatic brakes eliminate coasting. A variable-speed drive ranging from 35 to 80 yd. per min. (optional equipment) and independently adjustable contact rolls facilitate brush adjustments as needed. By making a note of the indicator readings on the contact adjusters, a mill can duplicate certain brushing and sanding effects at any time.

## Plug-In Humidity Controller Sealed From 10 to 95 R. H.



**$35 WILL BUY this unit that can be used to control the operating range of either humidifiers or dehumidfiers.**

A simple automatic "plug-in" humidistat designed to control electrically powered humidifiers and dehumidifiers has been put on the market by Abbeon Supply Co., 179-15 Jamaica Ave., Jamaica 32, N. Y. It is priced at $35.

The control, 7x2¾x2⅞ in., operates in much the same way as a room-type thermostat. All that is necessary is to hang the control on the wall and turn the dial to the percentage of relative humidity desired.

When used as a dehumidifier control, if the humidity rises above the setting, the control will turn on the dehumidifier. When the humidity falls below the set percentage of relative humidity, the dehumidifier will automatically shut off.

When used with humidifiers, the reverse is true: The humidifier is turned on at low humidities by the control and is shut off when the desired humidity is reached.

To install the control in conjunction with existing humidifiers or dehumidifiers, all that is necessary is to plug the humidifying unit into the control and plug the control into the nearest 110-v. wall outlet. The control is powerful enough to handle almost all modern types of electric humidifiers and dehumidifiers.

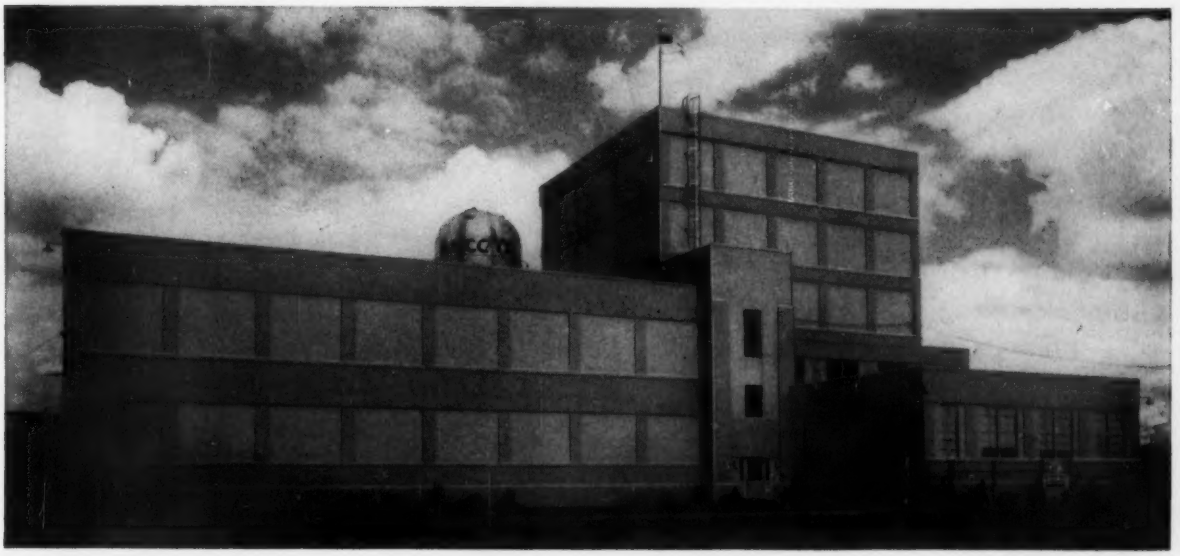
# A New Major Source of Hydrogen Peroxide

It is of little importance that this is a picture of "our new factory."

It *is* important that it is the first major expansion in the country's hydrogen peroxide facilities in a long time.

Becco aims to prevent the recurrence of hydrogen peroxide shortages which have plagued the country during recent years.

Becco's new Vancouver, Wash., plant is now in full production of hydrogen peroxide and other



peroxygen chemicals. This will afford quicker deliveries to the Western area and enhance our Buffalo plant's service to the Southern, Central and Eastern areas.

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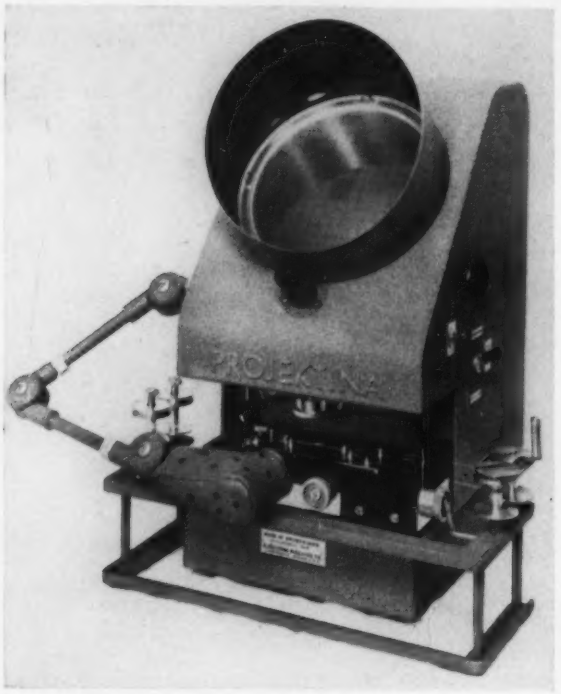
## Fiber, Yarn, and Fabric Viewer Has 8-In. Screen



A new optical instrument for counting the number of ends and picks per inch and for measuring and observing fibers, yarns, and fabrics is available from Sjostrom Machine Co., Lawrence, Mass. The viewer, manufactured in Switzerland, is called the Projectina, and was seen at the recent Textile Research Institute annual-meeting exhibit in New York.

The instrument stands 24 in. high, has a 12-in. square base, and weighs 40 lb. It is equipped with a series of flood lamps, lenses, and mirrors.

The object to be observed is placed on a stage-plate, which can be adjusted forward, backward, sideways, or tilted. It is then blown up on an 8-in.-dia. ground-glass screen from 3 to 20 times. The Projectina is so arranged that samples can be observed on the surface, through the fabric, or in a combination of both that gives a 3-dimensional view in natural colors.

Finely spaced lines on the ground-glass screen permit the measurement of fibers or yarns in either fractions of an inch or in millimeters, as desired.

The screen can be instantly removed and replaced with an eye-piece disk. The unit then becomes a microscope, with magnifications of 50, 100, or 400 times, with no further focusing or adjustments needed.

**MAGNIFICATIONS ranging from 3 to 20 are possible on this Swiss viewer. Blow-ups from 50 to 400 are also possible when the glass screen is removed and replaced with a disk fitted with an eye piece.**

## Yarn-Quality Control Aided by Electronic Instruments

Two electronic yarn-control and testing instruments have been developed in Britain, one for the simultaneous detecting and cutting of slubs in yarn being wound, and the other for recording the variations in diameter of yarns as they are spun on spinning frames. Dawe Instruments Ltd., 130 Uxbridge Rd., London W7, England, is the manufacturer.

The first is the "Linra" photo slubber, originally devised by the British Linen Research Assn., to be attached to winders. The second is called the "Linra" photoelectric yarn-irregularity gauge, designed as a mobile unit for spinning-frame use. Both can be used on yarns of any fiber.

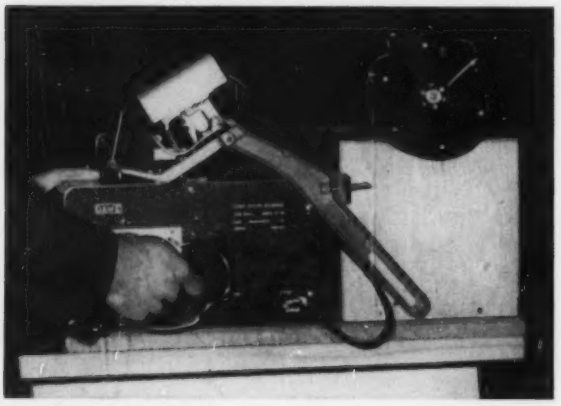
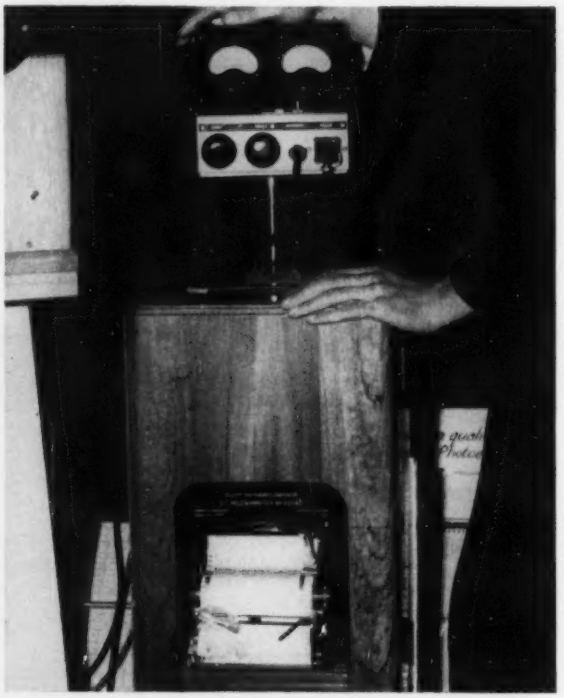


**PHOTO SLUBBER cuts slubs in yarn, operating by means of an electric-eye arrangement and a wire of the yarn diameter desired. If an end on a winder running through the detector suddenly has a diameter that exceeds that of the wire, the amplifier circuit operates a valve that acts on an electro-magnetic cutter in the anode circuit.**



**YARN-IRREGULARITY GAUGE reveals (1), with a recording millimeter, either long- or short-period variations in the diameter of yarn being spun or (2), with an integrating circuit in operation, average yarn quality in spot-checks around the frame or room, without any interruption of production.**

# Meet Solvay's New Trade Mark

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Soda Ash
Caustic Soda
Liquid Chlorine
Sodium Nitrite
Potassium Carbonate

SOLVAY's long established trade marks (**SOLVAY** and ⚓) that have appeared in our advertising, our literature and on our packages for over seventy years have been combined in a new design.

From now on, when you see this new trade mark—whether on tank cars, bags, drums, or in our advertising and literature—it will identify Solvay and everything for which Solvay stands. We hope our friends in the textile industry will get to think of this new trade mark as the symbol of Solvay's traditional quality and dependable service.

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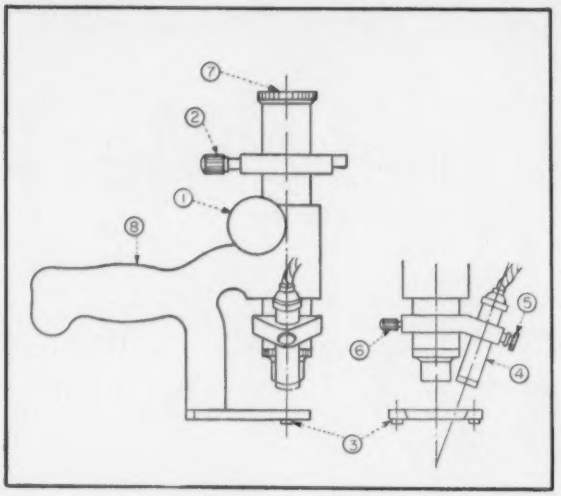
## Flat-Setting Microscope Measures to 2/1000 In.




In setting cards, the gauge between the cylinder and flats is ordinarily measured by hand with the appropriate gauge. Human judgment plays its part in the final setting.

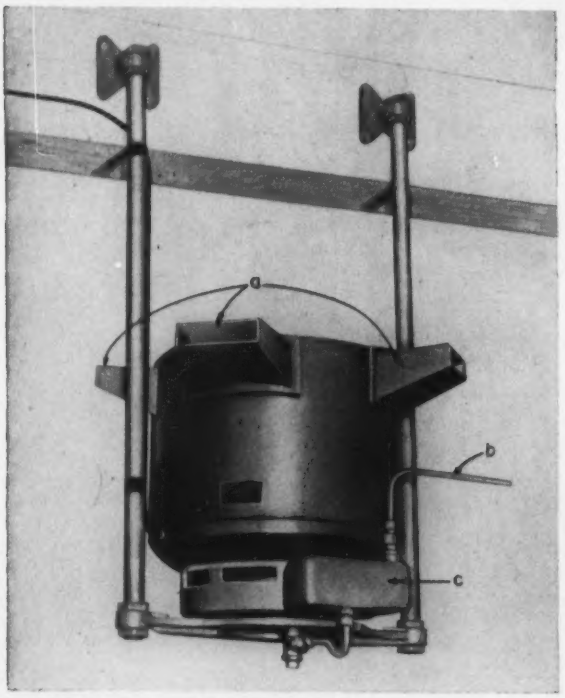
With a new portable viewer now available from Toyoda Automatic Loom Works Ltd., Kariya near Nagoya, Japan, even an inexperienced man is now said to be able to adjust this setting correctly. The viewer has a magnifying lens (20x), with a graduated scale on it set in increments of 2/1000 of an inch, and a battery-powered light source.

Wire points can be set even while the card is running, the manufacturer says. In such cases, cylinder clothing appears as shiny lines in the viewer because of its high speed.

A leather carrying case is provided for the viewer.

**PORTABLE CARD-SETTING DEVICE, a microscope that indicates to the human eye how far apart flat and cylinder clothing are set, consists of (1) adjusting knob, (2) fine-adjustment screw, (3) setting points to fit in gauge holes, (4) light source, (5) and (6) light-source adjustments, (7) eye-piece, and (8) handle.**

## Humidifying Unit Throws Vapor Four Ways



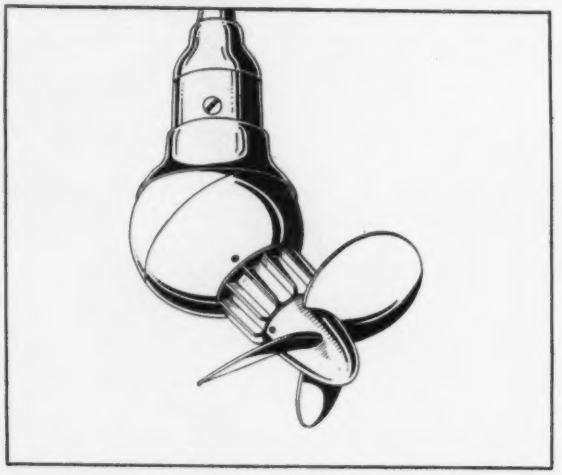

**SELF-CONTAINED HUMIDIFIER, Model 31A-4, can be used in single- or multiple-unit installations in mills. Motor-driven, it features a 4-way distribution of vapor and a dial-type humidistat for controlling relative humidity.**

**Manufacturer is Standard Engineering Works, Inc., Pawtucket, R. I.**

**Components of the 14x17-in. unit include (a) vapor outlets, (b) ¼-in. copper tube for water connection, and (c) the water-level and feed system.**

**Water is fed to the basin of the humidifier through a constant-level float tank. Attached to the motor shaft are a cone and disk. The cone sits in the water; when the motor starts, water travels up the cone outwardly under the disk and strikes the grid vanes with much force. Vapor is thus thrown out into the room at a capacity rate of 1 gal. per hr.**

## Oscillating Fan Cleans Half-Side Of Alternating Frames



**ZEPHYL is the name of this rubber-bladed lint-tight fan that is designed to keep lint off spinning frames.**

A simple, low-cost oscillating fan has been developed in France for the cleaning of ring spinning frames. It is now available for U. S. mills from the manufacturer, Etablissements Neu S. A., 47 Rue Fourier, Lille (Nord), France, and an American distributor yet to be announced.

Called the Zephyl, the unit is of airtight and positive-design construction to keep out lint and dust. It has a rubber-bladed fan that is fixed in a universal joint to the mounting. The fan, two of which are set to the ceiling directly over each frame in the spinning room, rotates slowly from a cam drive and blows diagonally down on the frame sides adjacent to the frame over which it is hung.

One unit can thus keep roving, lappets, rolls, and yarn clean on one half of one side of two ordinary-length frames, without disturbing the spinning operation.

Each fan uses 60 w. of power in operation. The fans are priced to land in the United States ready for use at about $225.

Booth

*Originators of* **STRIP-O-MATIC** *

## OVER 22 YEARS OF RESEARCH TO DEVELOP . . .

## . . . THE BEST CARD CLOTHING– *STRIP-O-MATIC**

Yes, that's how long Booth engineers and technicians have been working on STRIP-O-MATIC. The results are worth it. STRIP-O-MATIC is a revolutionary new type of card clothing that is receiving enthusiastic praise wherever it has been installed . . . praise that is backed up *by repeat orders.*

This last point is important. The proof of a product's superiority is to be found in performance, and STRIP-O-MATIC performance is making friends—and customers—out of economy, efficiency minded mill owners wherever it has been used. They report that:

**STRIP-O-MATIC**

- greatly reduces stripping waste,
- gives longer runs between strippings,
- requires far less grinding,
- improves yarn quality,
- reduces "down time",
- lowers carding cost,

**means added PROFIT**

Write today for full details on STRIP-O-MATIC. We will be glad to supply you with our 8-page color booklet describing the many advantages of this revolutionary Card Clothing. We think you will be interested. Once you have tried STRIP-O-MATIC, we are certain you will be convinced.

Sincerely Yours,

E. Allen Snape Jr

PRESIDENT

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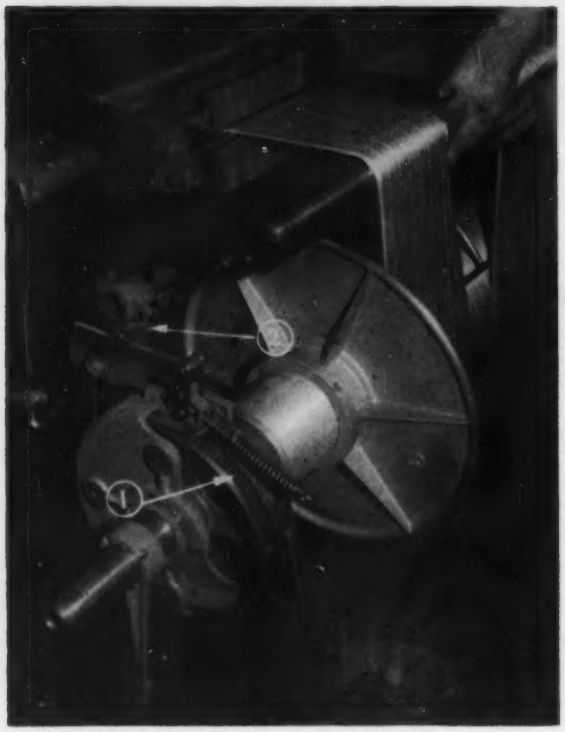
BENJAMIN BOOTH COMPANY, ALLEGHENY & JANNEY STS., PHILA., PA.

## Loom Brake Release Gives Constant Warp Tension



A constant rate-of-tension let-off for warp beams on all kinds of looms has been developed by and is available from George Fischer Ltd., Schaffhaus, Switzerland. No attention to the compression-spring let-off, once it has been set correctly, is necessary for the life of the beam.

The let-off is controlled by a special asbestos-lined circular brake shoe. Lubrication that might cause shippage on the braking surface has been done away with in the braking area by means of ball bearings.

In operation, the tension control works by means of a feeler bar, which is in constant contact with the warp on the beam. As the diameter of the beam decreases, the feeler automatically releases the brake just enough to keep yarn tension constant.

According to the space available on the loom, the feeler shaft is either mounted on suitable bearings at the back of the loom or taken through an existing or a specially drilled hole in the loom side.

The let-off motion has a release action for use when preparing a new beam or for occasions during weaving when it may be necessary momentarily to remove all tension from the warp. When the tension is reapplied, by the downward movement of the lever, it is restored to the same degree as before it was released, and there is therefore no variation in warp tension and no possibility of error in finished-fabric appearance.

**FEELER DEVICE** resting on the warp (under the man's hands) drops gradually as warp runs out and loosens brake band (first arrow) by relaxing the spring gradually through the lever arrangement. Tension adjustments are made at a scaled lever-arm slot (second arrow).

## Yarn Evenness Recorder and Integrator Is Versatile

**SIMPLICITY OF OPERATION and excellent stability make this evenness recorder and integrator valuable for testing the uniformity of sliver, roving, or yarn. It operates on the dielectric principle, using the Fielden bridge circuit.**

A new yarn and sliver uniformity tester is now available from Fielden Instrument Div., Robertshaw-Fulton Controls Co., 2920 N. Fourth Street, Philadelphia 33, Pa., that can handle sliver, roving, and yarn. The instrument operates on the dielectric principle, using the patented Fielden bridge circuit. A continuous record of the variations in mass per centimeter is shown on an Esterline-Angus pen recorder.

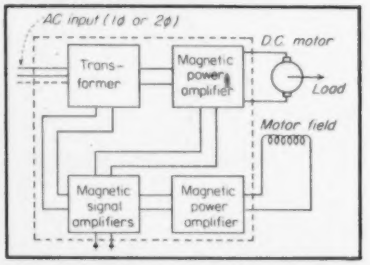
Incorporated into the instrument are two integrating circuits that indicate the following on the two meters provided on the panel of the instrument: (1) the mean deviation of the yarn expressed as a percentage of the mean weight and (2) the mean level of the yarn.

Four plug-in electrode heads are provided to cover the range of materials to be tested, from card sliver to the finest yarns running up to 15 den. or its equal. Two yarn-traverse speeds of 5 and 50 yd. per min. can be selected by a simple push-pull knob, and five chart speeds from ¾ to 12 in. per min. can be selected by change gears on the recorder.

An important feature of the equipment is that the setting of its sensitivity is not critical since the recorder pen is deflected from zero by the mass of the material passing through the electrode; thus the amplitude of irregularity can be referred to the whole by observing the deflection from zero. In other words, the recorder shows true mass on a linear scale from zero.

Another feature is that a remote electrode can be provided with cable connections 5 or 6 ft. long to the instrument so that direct readings can be made at the spinning frame, for example, or the card or drawing frame.

## Direct Motor Control Regulates Speed and Tension Variations




**POWER FLOWS** from power line at upper left to transformer to magnetic power amplifier (where it is rectified by dry-plate selenium rectifiers) to armature of the motor. In this installation, three amplifying units are used for varying speeds or varying the output torque.

A tubeless electrical system for the automatic control and regulation of variable-speed machinery has been introduced by Bogue Electric Mfg. Co., 52 Iowa Ave., Paterson, N. J. Known as "TranTork," the control equipment has no electronic devices or vacuum tubes to maintain.

The system has no tubes and no moving or wearing parts to warm up.

(Continued on page 186)

*To serve Industry well...*

# GENERAL CHEMICAL'S Sodium Tripolyphosphate

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# Alabama mill reports exceptionally low maintenance cost with Roto-Coner® Winders

**"Annual repair parts costs averaged less than ¼ of 1% of the original investment,"** states West Boylston Manufacturing Company, a Division of United Elastic Corporation.

**WEST BOYLSTON INSTALLATION** in Montgomery, Alabama shows Roto-Coner Winders used to both inspect and to package yarn for shipment. Streamlined surfaces of these winders are easy to clean, allowing little lint to collect. Roto-Coner Spindles start at the touch of a finger. Threading is simple, supply shelves close at hand.

When West Boylston installed 1200 spindles of Universal Roto-Coner Winders back in '46 and '47, they were told that the upkeep of these winding machines would be negligible.

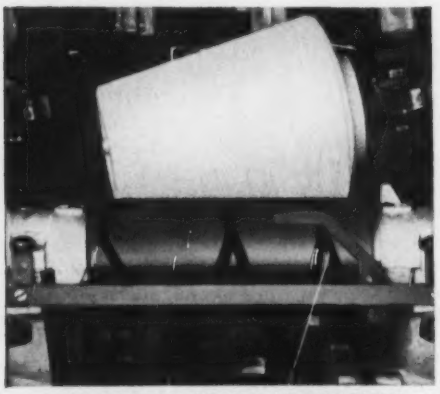
Now West Boylston is telling *us*.

Reports this large cotton yarn manufacturer, "Annual repair parts cost has averaged less than ¼ of 1% of the original investment!"

"What's more, there is not enough repair work on these and additional Roto-Coner Winders to keep one fixer busy! He fills out his time with additional duties."

This hearty testimonial is but one of many we receive from Roto-Coner users. This ultra-modern drum winding machine has no reciprocating parts whatever — no traverse cams that wear out, require greasing or adjustment.

Clean, quiet, easy to operate, the Universal Roto-Coner Winder will give you highest production at lowest maintenance cost in drum-winding your cotton, spun nylon, spun rayon, wool, worsted or blends.



**ONLY THE ROTO-CONER HAS THE ROTARY TRAVERSE.** Grooved roll acts as both driving drum and traverse guide.

**EXCLUSIVE ROTARY TRAVERSE**

Only the Roto-Coner Winder has the exclusive Universal Rotary Traverse. This one-piece driving drum and traverse guide eliminates the headache of frequent repairs. It lasts indefinitely and its lack of vibration contributes to low maintenance cost.

If you are not now using Universal Roto-Coner Winders, be sure to write for full details.

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# LETTERS FROM OUR READERS

Round Table

Address all communications to:
Editor, *Round Table*, TEXTILE WORLD
330 West 42nd Street, New York 36, N. Y.

## "OVERSTUFFED" WAREHOUSES NOT UNIVERSALLY APPROVED

Dear Editor:

The article "How Warehouse Capacity Was Increased 600%," which appeared on page 104 of your September issue, will undoubtedly command the attention of those charged with the economical use of warehouse space. But we in the insurance business are considerably concerned over the hazards that go along with the higher piling of certain raw stocks and finished goods.

If fire occurs, either from within a huge pile of baled cotton or from an outside source, the problem of controlling and finally extinguishing the fire can be a tremendous one. It is practically impossible to effect positive extinguishment without hauling bales out into the yard, opening them, and digging out the burning cotton.

Smoke generation in fires of this type is considerable and not only hampers fire fighting but certainly would hamper the safe and effective operation of lift trucks. And if the bales are stacked close to the ceiling, it is practically impossible for the sprinklers to function efficiently in either stopping or even checking such a burrowing fire.

Quite apart from the fire-fighting aspect, both the risk and the peril are increased when a warehouse is rearranged to accommodate six times its rated capacity, and the efficiency of automatic fire protection is decreased.

The probability is increased that the overhead sprinkler system may be damaged through careless operation of the lift trucks. Water damage that might occur further detracts from the desirability of such a risk. And if it is necessary to shut off the system to repair it, the fire hazard is increased.

With nearly two-thirds of a century of experience behind us as insurers of thousands of cotton mills, we just do not endorse this trend toward higher piling. There seems to be overemphasis on the economic advantage and little or no publicity given to the many serious problems that will beset those who undertake this procedure.

W. H. FORRISTALL
Factory Insurance Association
Hartford, Conn.

## TWO BOUQUETS FOR OCTOBER TW

Dear Editor:

I was very much impressed with the October issue of TEXTILE WORLD.

I am very pleased to see an issue planned for the finisher as this one is; too often I get bogged down in articles on manufacturing. I am not making any adverse criticisms.

I should particularly like to compliment you upon your editorial. It must have been difficult to write, in view of the fact that so many of our subscribers are manufacturers. Also, many of our advertisers point their advertisements to the manufacturer.

I do not know what our reader interest is in editorial comments, but I do hope that many of them will read this particular one. Perhaps through impartial explanations of difficulties that do occur in a vertical setup, described by a person with no special interest one way or another, better cooperation can be obtained.

C. NORRIS RABOLD
Erwin Mills
Cooleemee, N. C.

Dear Editor:

Let me express to you my appreciation of your editorial "You Finish It." I enjoyed every word of it and cannot but marvel that anyone not active in this field should know so much about it. One hardly can say it better.

This comment is not to be taken as expressing disapproval of the company for whom I now work as a consultant in wet processing. Nevertheless, in almost 20 years of this type of work, I know but too well the truth of your statements.

How many managers and other TOP executives will even read it, much less heed it?

ERICH WENDLER
Milltown, N. B., Canada.

## TEXTILE TICKLES . . . . . *By Edgar Allen, Jr.*

*"She wants to use the dolly washer!"*

Pointers FOR SUPERVISORS

# What To Emphasize in TRAINING NEW EMPLOYEES

▶ **Teaching a new employee the proper job method will make it easier for him to master the job. Sometimes turning out an acceptable product at the start results in poor production methods later.**

**By J. E. GARDNER**
Asst. Director of Personnel Research, Fieldcrest Mills

THE OLD DEBATE of speed vs. accuracy in training has been making the academic rounds for years. It's of very practical importance to foremen who are repeatedly faced with the problem of training new employees. What should be emphasized?

### Turning Out an Acceptable Product

There are many foremen who follow the practice of "teaching them slowly." They say that the new employee should first be taught "how to do it right" before he begins to build up his speed.

If this means that a trainee must learn the right job method, there is agreement probably on all sides. However, "learning how to do it right" does not always refer to job method; it often refers to the turning out of an acceptable product regardless of method. In this case, the emphasis on "doing it right" may retard the trainee's progress.

To illustrate, let's suppose we were training a new employee on the operation of a sewing machine. Should we insist, at a very early stage, that the trainee turn out satisfactory sewing that will pass inspection? We can so insist and the trainee, after learning rudimentary hand movements, can do it.

The point is that the trainee may do it at the expense of effective learning of the proper job method. In order to produce acceptable sewing she will stop the machine an excessive number of times to position the cloth and will use excessive motions in positioning and feeding the cloth. In this way she will produce acceptable sewing but will be using an inefficient job method.

### Good Work but Bad Habits

No trainee, of course, will be able to complete a sewing cycle without stopping the machine to position the cloth. The trainee, at first, cannot use the method of the skilled operator. The danger in emphasizing acceptable work is that the trainee, in order to "get it right," may be very slow to eliminate stops, positionings, and unnecessary motions. She may, as she turns out acceptable work, get "set in her ways." She may continue to stop the machine and reposition the cloth in each sewing cycle. Once this procedure becomes habitual, it is difficult to induce her to eliminate the stops and feed the cloth continuously into the machine. So she turns out good work by using a bad method.

Ultimately the production requirements will force her to eliminate unnecessary stops and motions, but this is the long way around.

### Teach Proper Work Methods

An alternate training method is to emphasize continuous sewing, with a minimum of stops, very early in the training period. By this method the trainee produces bad sewing but she is learning the right method. As she masters the method her sewing becomes more acceptable. She is not permitted to become stuck with a certain number of stops in each sewing cycle. The intermediate steps between no skill and the ultimate skill are minimized.

The whole idea is to proceed as fast as possible to the proper work method. We can't start with that method in the sewing job because the trainee must, in the acquisition of sewing skill, eliminate unnecessary stops, positionings, and motions. But this elimination process can be expedited if we start off with a method that is as near to the ultimate method as we can get and if we emphasize the elimination of the unnecessary motions.

### Emphasize Final Results

In many cases the trainee is not the best judge of her readiness to eliminate the extras. Dramatic results are sometimes possible simply by forcing the trainee to reduce her number of stops. If the emphasis, from the start, is on continuous sewing, the trainee's efforts are constantly pointed in this direction.

A major objection to this approach is that quality suffers. There is little doubt that bad sewing will occur at the beginning. If this cannot be permitted, the approach will be impractical. But if waste material can be used or if the cost of poor quality is negligible, the emphasis on early mastery of the job method will pay off in faster learning.

No matter what aspect of training is emphasized, the job method must be considered. In order to learn efficiently, the trainee must get practice in the ultimate method that a skilled operator uses or in a method that is as close to the ultimate method as possible.

### Train for the Capacity of the Job

If the approved method in doffing filling frames is to handle six empty bobbins at a time, the trainee should start in by handling six bobbins. When a foreman "makes it easy" for the trainee by letting him start off by handling three or four bobbins, he is inviting trouble. The trainee has to set up a new pattern of movements when he shifts from three to six bobbins. This change over can be difficult since it requires the trainee to break one habit and relearn another.

If the approved method of filling batteries is to handle five bobbins at a time, the trainee should start off with

(*Continued on page* 182)

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Exploring

# The Textile Community

## Do You Believe in SIGNS?

**► If you're proud of your mill, label it. The passing public want to know who you are and what you make, and you're neglecting a good piece of public relations if you fail to tell them.**

**By MILDRED BARNWELL ANDREWS**

FOR FIVE YEARS one of the planks of the textile industry's public relations platform has been "Erect signs that give the name and product of your mill so the passing public will know more about your company."

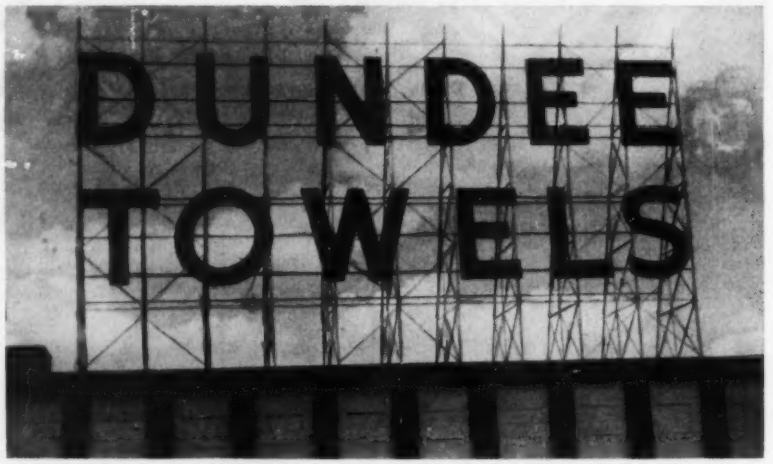
Yet just last month we received a letter from a man well acquainted with the industry who wrote, "In traveling to Greenville, S. C., on the Southern Railroad, from Dan River south I was amazed at the number of mills we passed but appalled that the great majority of them don't tell who they are or what they make or even that they are textile mills. It seems to me that such signs should be put up to emphasize to passers-by the broadness, strength, and scope of the Southern textile industry."

### More Signs Are Needed

This comment clearly indicates that there is much more work to be done in the sign line to tell the public about the textile industry and the communities in which mills are located. It's also good community relations to tell your own neighbors what the mill makes and to impress it upon them by letting them see your sign every time they pass your mill door. The people who live in mill communities want others to know about the plants they work in and the products they make. They like to point to those big and interesting signs and say, "Look—that's the kind of outfit we work for." They like to say it with genuine pride.

### There Are Some Good Ones

There are some wonderful mill signs along the railroads and highways that our friend and commentator did not overlook and that deserve some real commendation. The great Cannon Mills signs at Kannapolis and the sign of Pacific Mills down at Lyman, S. C., are outstanding. The Avondale Mills signs on the highways in Alabama are among the biggest and best we have seen in the textile field. The Pepperell Manufacturing Co. signs with the postscript "Visitors Welcome" make one want to stop and learn more about the company. But signs such as these are uncommon. Many mills have none or have signs that could be improved upon.




**THIS SIGN** has become a landmark around Griffin, Ga. It is visible from the railroad, from the highway, and from the air and can be seen for miles when it is lighted at night.

Too many signs are put up without thought for the people who should see them. The location, angle, and height of the sign should be chosen with the viewer in mind; but all too often that obvious fact is overlooked.

### How Not To Do It

One of the largest weavers of fine upholstery material has a very imposing sign in the front yard of one of its mills located on the Southern Railroad. Unfortunately, railroad travelers do not see the sign because it is on pedestrian eye-level and too low to be seen from passing trains even if the view-way were cleared. From railroad cars the traveler sees only the rear end of a couple of houses and a nearby filling station yard full of wrecked and junked automobiles, all located in the area between the tracks and the mill.

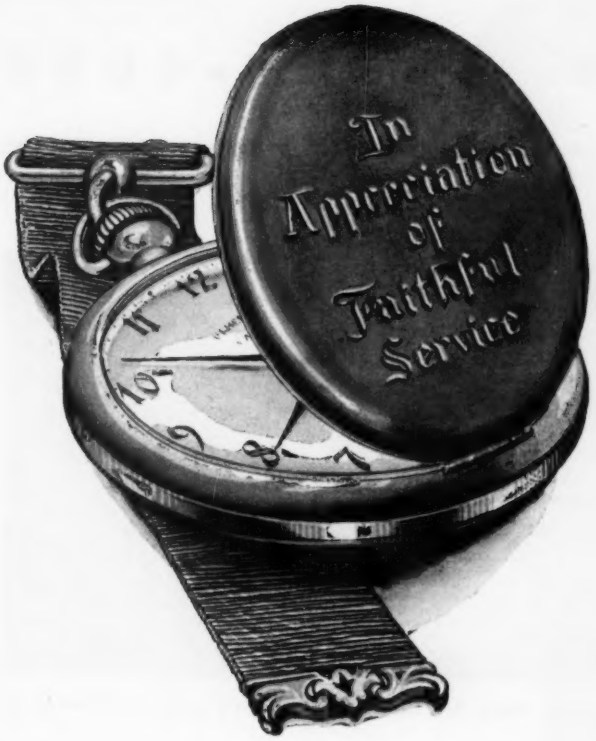
The automobile traveler is more fortunate. The road runs in front of the well-kept plant, and motorists driving north can easily read the sign if no passing traffic obstructs the view. Those traveling south, however, seldom see the sign until too late to read it because of an interfering sign at the mill gate that says "DANGER. Mill Entrance."

From this example of cash outlay for a fine, large, interesting sign vs. ability of travelers to see it, the mill comes out the loser. With an expenditure of this type, a better location for the sign would bring much better reader results. Why spend so much for comparatively few to see?

### Signs Can Be Landmarks

Identifying signs, when properly

(Continued on page 184)




# *Honorable Retirement*

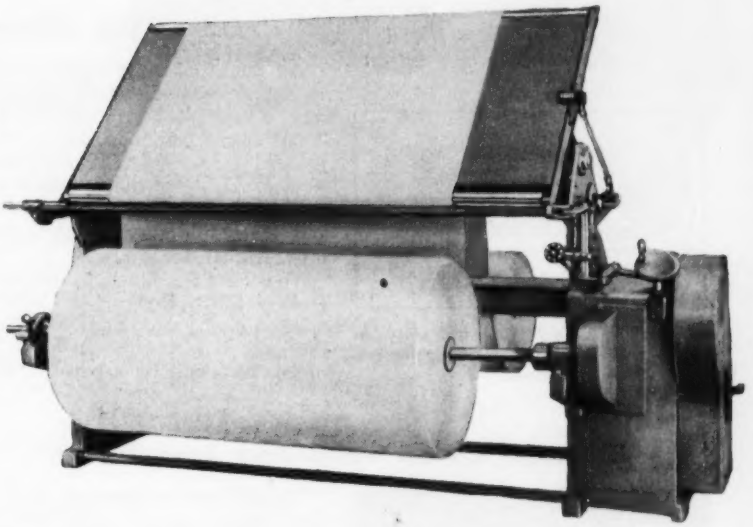
There is a lot implied by the word retirement. It brings to mind years of good, sound work, honestly performed.

Machines, too, are capable of long, faithful service They don't get gold watches but they should be honorably retired at the proper time.

Perhaps your plant has machines that should be retired. Van Vlaanderen has modern machines for every processing operation. They are built to stand long service and give superior finished fabrics at sustained high production.

Our engineers are ready to work with you whether you need a single machine or an entire new plant.

This modern Van Vlaanderen machine, The INSPECTALL, is built to a sturdiness and precision not before found in inspecting machines. It features exclusive one station group control, wide range variable speed drive, one motion clutch control and let-off brake and adjustable examining board The INSPECTALL handles rolls up to 36" diameter. It will give you long, faithful service. Write for complete information on this versatile machine.



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# Kinks AND SHORT-CUTS

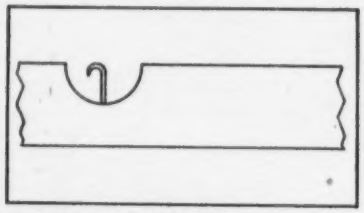
## For a Temporary Repair— Try Cutting Harness Frames

Wooden harness frames often split slightly and the hook for the harness cord pulls out. If another hole is bored for the hook a short distance away from the original hole, the harness will be out of alignment with the other harnesses when it is in motion.

The only permanent way to repair the split frame is to put on a new frame, but this way is difficult when a warp is on the loom.

We now cut out the old hook hole and bore a new one in the cutout. This way we do not lose much production time.

When the warp is cut out, the drawing-in room replaces the damaged frame. *Bernard Dixon, Danville, Va.*



**CUT OUT THE OLD HOLE and place the harness hook in the new surface at the bottom of the harness frame.**

**WHEN THE END RIBBON fails to feed, the broken end falls on a sensitive lever that breaks the electrical circuit.**

## Here's a New Stop Motion For Your Ribbon Lappers

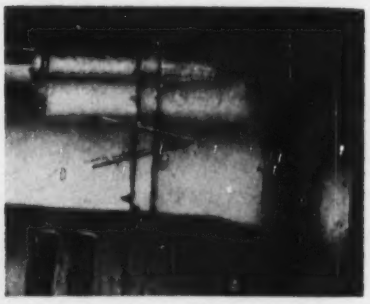
Although ribbon-lap machines have several types of knock-off and stop-motion controls when ends run thin, break, or run out, there was no effective stop control when the end ribbon went afoul. The ribbon would pile up at the end, spill over on the floor, and leave only three ribbons going into the final lap.

To correct this situation, Richmond Hosiery Mills, Rossville, Ga., developed an electric stop motion. When the end ribbon fails to feed, the broken end falls on a sensitive lever that breaks the electrical circuit and stops the machine.

The motion is counterbalanced with a small weight to maintain the circuit when the ribbon-lap machine is functioning properly. The front end rests on a contact point that is broken when the control is slightly tilted by the weight of the broken lap.

Since development of this stop motion, the mill, which produces its own knitting yarns, has effected a substantial saving in cotton that had to be reworked and now obtains uniformity.

## How To Assure Correct Power-Tool Assembly



**WATCH THE V when you reassemble parts that could be put together incorrectly.**

Portable power tools are made in layers of components that must be assembled correctly after they have been taken apart for servicing. It is possible to place the parts back in position the wrong way around, but one way to insure that parts are reassembled correctly is to scratch a V across the joints, as shown in the illustration. When the parts are put together, the V will show clearly if the parts are correct. If a straight line only were scratched on the electric drill shown in the photograph, it would be possible in some circumstances to reassemble the narrow center piece incorrectly.

This type of marking is particularly applicable to internal assemblies where washer or disk-shaped parts are strung together on a shaft. Often the components have recesses and screw holes that must be placed correctly, but the exterior of the assembly does not show these. A long V, scratched along the outside of the assembly before it is dismantled, will insure that everything is replaced correctly after servicing. *C. T. Bower, London, England*

# NEW Lint-tight LOOM SWITCH

## with important DESIGN LEADERSHIP features . . .

- Flush handle reduces possibility of damage or accidental operation. Easy to operate with simple up-and-down motion. Handle position clearly shows whether starter is ON or OFF.
- Over-center cam type cover latch provides heavy clamping pressure on neoprene sealing gasket.
- Vibration or shock conditions will not affect toggle mechanism.
- Simplified wiring. Line terminals at bottom for easy floor pedestal mounting.
- Plenty of wiring space. 1¾" top and bottom. ½" at each side.
- Cover is interlocked to prevent opening when starter is "ON."
- Protected type overloads permit group fusing of several motors on a single branch circuit.
- Mechanical linkage is provided to force contacts open with direct pressure from handle.

*Write* for Loom Switch Bulletin 2510-R.
Address Square D Company, 4041 N. Richards Street, Milwaukee 12, Wisconsin.

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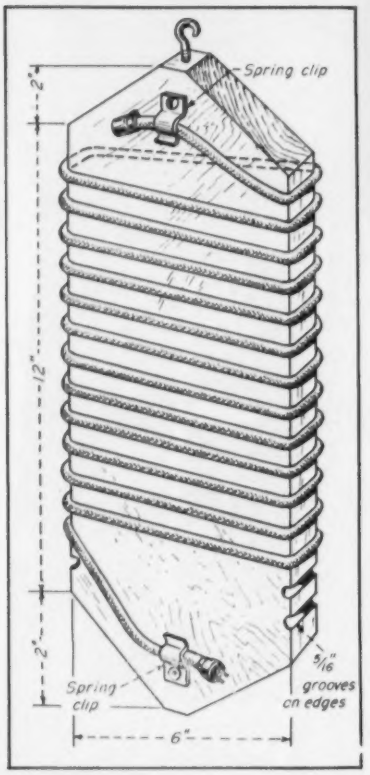
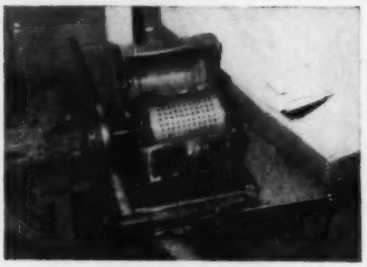
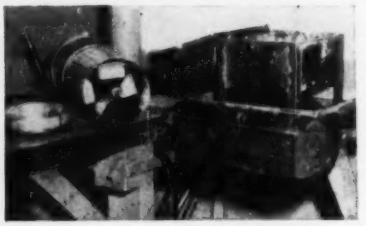
## Try This Simple Holder To Keep Extension Cords




**WIND EXTRA CORD around this easy-to-make holder. Grooves along the sides make winding easy and neat. Spring clips hold the cord at each end. Just unwind enough cord each time you need it. You can hang the board up when you're not using it.**

## Here's an Easy Way To Clean Knitting Needles





**THIS NEEDLE WASHER SAVES TIME. Needles can be cleaned while the fixer is carrying on his normal work. There are four separate compartments in the cylinder, which revolves in the cleaning solution.**

During a major overhaul of any knitting machine, the needles should be removed and thoroughly cleaned to give better service and to enable a better inspection to be made. Some mills let the needles soak in the cleaning solution overnight and brush them by hand, but this method consumes a considerable amount of time.

Standard Knitting Mills, Knoxville, Tenn., built a washer that is modeled after the tumbler-type machines found in dyeing and finishing plants.

The frame is made from sheet copper 4 in. deep, 7½ in. wide, and 7¼ in. long. The frame sits on legs 2 in. long. Hinged to the frame is a semicylindrical top, 4 in. deep, that fits over the cylinder.

A cylinder is made from a perforated galvanized sheet and is divided into four compartments that hold the metal boxes containing the needles. A 6-in. pulley fixed to the center shaft of the cylinder is operated by a belt driven directly from a drive shaft.

The period of time in the washer will depend upon the type and gauge of needles, but all needles should be drained of cleaning fluid and sprayed with needle oil before being replaced in the knitting machine.

## We Made Fiber Bearings To Eliminate Slasher-Oil Seconds

We formerly had a lot of seconds caused from oil that got on the yarn at the slasher. We tried many types of metal bearings on the immersion rolls but received only temporary relief.

Finally we bought some sections of Celeron synthetic and made some bearings in our own machine shop. We are now free from oily seconds, and our new bearings, which have been running for over 2 yr., outlast the metal ones we used to have. *J. F. Logan, Chesnee, S. C.*

## $500 for Best Kink in 1953
## $25 for Best Kink Each Month

### In Addition to Space Payment on Acceptance

**You undoubtedly know many Kinks and Short-Cuts that are helpful to mill operators. Write them down and send them in. We pay promptly on acceptance—before publication. In addition, your Kink may win the $500 check for the best Kink of the year or the $25 check for the best Kink of the month; maybe both!**

**Send in your Kink now. There is always a contest going on. The more good Kinks you send in, the better your chances of winning a prize in addition to earning some easy money for every Kink accepted.**

**We will polish up your writing and will have an artist make finished drawings. But send in plenty of details so that your Kink can be clearly explained. Be sure your sketch is clear and well labeled, but it need not be a polished job. Best of all, send us a good glossy photograph of it—we will pay you extra if you do and we can use it.**

**Look over the Kinks in this and other issues. You will get ideas you can use as well as inspiration for Kinks you can send in. We like items that pertain to ways for improving machines, new devices that a mill man can build, attachments or methods of merit—anything that will cut costs, improve quality, or help production.**

**Your published Kink will be judged impartially by other mill men. In cases of ties, duplicate prizes will be awarded.**

**RULES OF CONTEST**

1. No limit to number of entries.
2. New $25 prize contest every month, $500 prize contest for the year. Monthly contest confined to Kinks published that month, yearly to those published in calendar year 1953.
3. All Kinks paid for on acceptance; extra payment for photographs. Drawings need not be finished (clear detailed pencil sketches will do).
4. Previously published material not eligible for prizes.
5. Unless you advise to contrary, we assume we may sign your name to Kink when published.
6. Prize winners will be selected by readers, a different group each time. At least 200 will be asked to select preferred Kinks in each issue. Their votes will select the best Kink, and their decision will be final.

Send Kinks to:
KINKS CONTEST, TEXTILE WORLD
201 E. Coffee St., Greenville, S. C.

# IT'S NEW

## Dynamic Braking with Electronic Guider Control †

- No brakes to reline or burn out
- Perfect tenter-pinning control
- Add years to your motor life

Yes, all these outstanding results are exclusively obtainable with McCreary Automatic Pinning and Overfeed—equipped with the new G-E Electronic Guider. The electronic guider rectifies the A-C current to D-C in 3/1,000,000 of a second, thereby putting the motors into instantaneous operation and permitting dynamic braking.

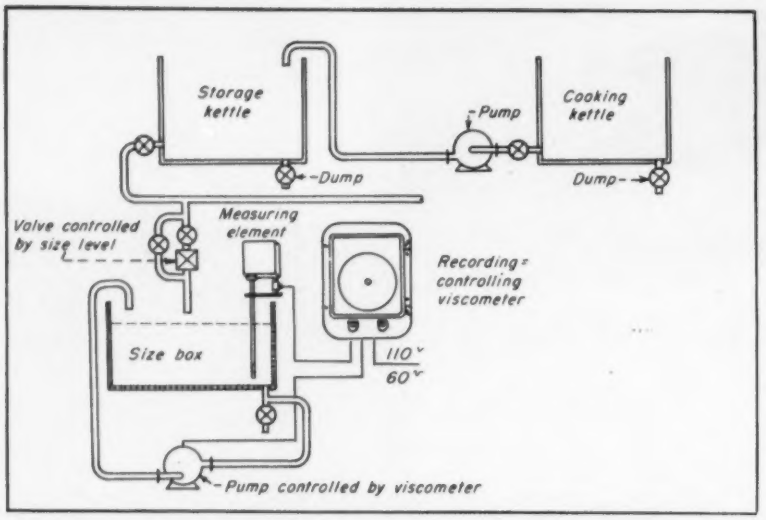
The dynamic braking action is accomplished by the use of resistors, thus entirely eliminating mechanical brakes and heating of the motors, greatly increasing motor life, and giving an accuracy to tenter-pinning hitherto unobtainable

***For further information, write at once . . . . . .***

†Patents applied for

**McCreary** MACHINE WORKS, INC.
COHOES, NEW YORK

MANUFACTURERS OF TEXTILE FINISHING MACHINES SINCE 1874




**NEW SIZE SYSTEM** uses a centrifugal circulating pump, controlled by a viscometer, to keep viscosity constant at any desired value. Size is cooked in the conventional manner.

## How To Improve Size With a Centrifugal Pump

A centrifugal pump can be used to prepare size to a uniform viscosity and keep it that way. Here's how:

Cook the size conventionally and deliver it to the size box heavy enough to overcome the effects of condensation and normal agitation. Put a viscometer measuring element in the size box and hitch it up to a recording-controlling viscometer. Set the control point wherever you wish.

If you have a centrifugal pump (we use a Worthington 1½ CF-1) to circulate the size in the size box, you can have the pump automatically controlled by the viscometer to maintain the viscosity of the solution exactly.

An independent water-seal arrangement should be applied to the pump stuffing box to prevent size from entering the pump during shutdown periods. We have an elevated sealing-water tank with its water level about 7 ft. above the surface of the liquid in the size box. This arrangement is used instead of a direct sealing-water connection to preclude any possibility of leakage that might dilute the size.

This automatic viscosity-control system can give you exact control of size content. *C. D. Hood, Harrison, N. J.*

## Easy Way To Wax Floors

Waxing hardwood and asphalt-tile floors was a time-consuming job in our mill until we began using the following simple and practical method.

All you need is an ordinary string-type floor mop, a scrubbing pail equipped with a good mop wringer, and a good grade of liquid, self-polishing, water-base floor wax.

Put some of the liquid wax in the pail, and then dip the floor mop in the wax and wring it out quite dry in the mop wringer. With long sweeping strokes, apply the wax in exactly the same manner as you wash a floor.

Don't allow too much wax to remain on the mop, or the floor will be sticky. Be careful along the edges so that the baseboard will not get spattered. *W. T. Ward, Granby, P. Q.*

### *Best-Kink Award for October*

***Each month TEXTILE WORLD awards $25 to the submitter of the Kink judged by a panel of over 200 practical mill men as the best for that particular month. A new batch of Kinks appears each month, and a new group of readers acts as judges each month.***

***If you are asked to judge one of these days, be sure to help select the best Kink by sending back your answer in time for final tabulation. Closing date for judging is the last day of the month in which the Kink appears.***

***The best Kink for November, according to TEXTILE WORLD reader-judges, was:***

***"Knitters: Use This Tool Instead of Needle Pliers"***

## Change Temples on Wool Looms When Filament-Rayon Warps Are Run

We changed cloth styles on a group of our W-looms from woolens to filament-rayon warps with elastic filling. The temple burrs picked up the filaments of the rayon warp ends near the selvages and spoiled the appearance of the cloth.

We corrected this condition by changing the temples to the type made for rayon looms. The synthetic-rubber and cork rolls do not damage the cloth.

**THE COUNTERSINK BIT** is made from a discarded shuttle spring that's ground to this shape. The edges must be cut to be turned clockwise.

## Improve Drop-Box Picker Wear By Starting the Hole

We used to have a lot of trouble with pickers being out of parallel on our C&K looms. The loomfixers paralleled the new pickers; but when the shuttle spur wore a hole in the picker, the hole was often out of parallel.

We eliminated pickers being out of parallel by the following procedure:

1. When our loomfixers put on a new picker, they tighten the picker-rod bushing and the picker-rod-stand cap, temporarily, and run the loom a few picks.

2. They remove the picker and place it in a vise. They bore a ⅜-in. hole in the picker head in the exact spot where the shuttle spur has struck the picker. The hole is bored about ¼ in. deep.

3. They countersink the hole with a hand brace and a countersink made from a shuttle spring.

4. They place the picker back on the loom and retighten all the parts. If the picker isn't parallel at the end of the picker-stick stroke, the picker-rod stand is adjusted up or down. Sometimes the stand has to be filed at the back or shimmed out.

This method of paralleling pickers takes longer than the common way, but the pickers will wear out completely because they will always be parallel.

# How to keep informed on the "with what" part of your business

AT YOUR FINGER TIPS, issue after issue, is one of your richest veins of job information – advertising. You might call it the "with what" type – which dovetails the "how" of the editorial pages. Easy to read, talking your language, geared specifically to the betterment of your business, this is the kind of practical data which may well help you do a job quicker, better – save your company money.

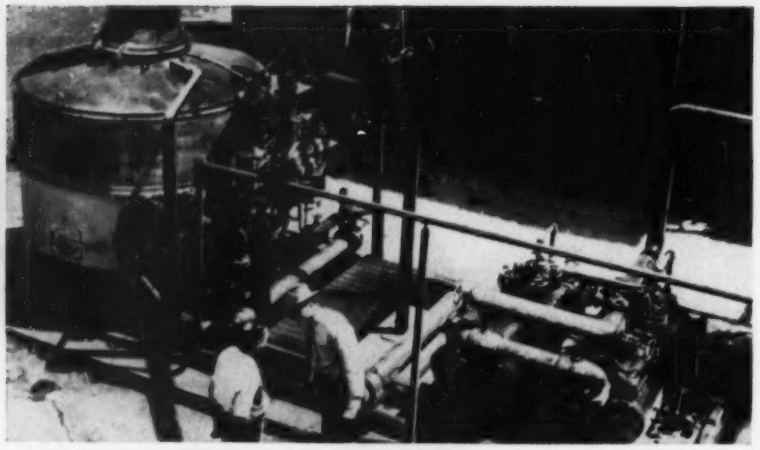
Each advertiser is obviously doing his level best to give you helpful information. By showing, through the advertising pages, how his product or service can benefit *you* and *your* company, he is taking *his* most efficient way toward a sale.

Add up all the advertisers and you've got a gold mine of current, on-the-job information. Yours for the reading are a wealth of data and facts on the very latest in products, services, tools . . . product developments, materials, processes, methods.

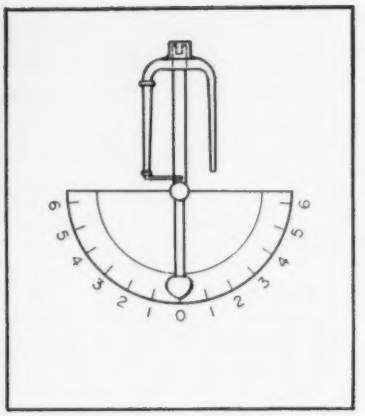
You, too, have a big stake in the advertising pages. Read them regularly, carefully to keep job-informed on the "with what" part of your business.

McGRAW-HILL FOR BUSINESS

**McGRAW-HILL PUBLICATIONS**



STEAM GENERATOR (left) takes only one-fifth as much space as the three boilers it is temporarily replacing, but it produces almost as much steam.




THIS SIMPLE ARRANGEMENT shows at a glance which side of a flyer is heavier. Perfectly balanced flyers give a dead-center reading on the dummy, fulcrumed spindle.

## Rented Steam Generator Substitutes for Three Boilers

Here's an idea from the chemical industry that you may be able to use some day if you're caught without enough boiler capacity.

General Tire & Rubber Co., Baytown, Texas, had three boilers come off the line for repairs, but production had to be maintained. So the maintenance foreman rented a Vapor-Clarkson steam generator from Texsteam Corp., Houston, Texas.

A concrete base was poured, and the next day the complete unit was shipped on one truck. The steam generator was unloaded, installed, piped, and on the line in a few hours. The gas-fired unit is producing 22,000 lb. of steam per hr. at 165 psi. and is operating 24 hr. a day. The unit is about one-fifth the size of the three regular boilers, which produced only a little more steam per hour.

Automatic controls take over after the generator is started, so the company estimates that it is saving one fireman per shift over the requirements for conventional, 9,000-lb-per-hr., oil-field boilers.

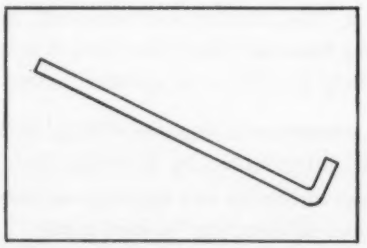
## Don't Throw Away Broken Lay-End Plates

The lay-end plates on our E-model looms sometimes break at the projection where the stove bolt holds the picker-stick guide to the plate. We used to replace the entire lay-end plate when this small projection broke. The disadvantages of replacing the plate are the cost of the new lay-end plate and the fact that loomfixers had to spend about 2 hr. in replacing and aligning the new part.

We have made a new part that makes it unnecessary to replace lay-end plates that are broken at this bolt hole. We drill a hole 2 in. above the broken hole in the plate and tap it for a $\frac{3}{8}$-in. capscrew.

A piece of strap iron $\frac{1}{4}$ in. thick, $\frac{3}{4}$ in. wide, and $3\frac{1}{8}$ in. long is bent to a 90° angle $\frac{3}{4}$ in. from one end. A $\frac{3}{8}$-in. hole is bored $\frac{3}{4}$ in. from the other end of the iron.

The bent end of the iron is placed in the bolt slot in the picker-stick guide, and the other end is fastened to the lay-end plate with a $\frac{3}{8}$-in. capscrew.



YOU SAVE AN HOUR AND A HALF of loomfixer's time and the cost of a new lay-end plate when you use this strap-iron repair part.

This method of reconnecting the guide to the plate has saved us a lot of money that we formerly spent for lay-end plates. It has also saved us money in wages spent to replace the broken plates. Weave-room production has been increased because looms do not have to be stopped for plate replacement. *C. E. Chapman and J. C. Gruber, Joanna, S. C.*

## How We Test Our Flyers

We set up a spindle so that it was fulcrumed at the middle and could swing from left to right but not forward and backward. We weighted the base of the spindle to prevent its tipping over when the flyer was put on.

The base of the spindle is marked with an arrow in the center and points at a protractor scale, as shown in the sketch. When the flyer is put on the spindle, any unbalanced condition will cause the spindle to tilt, and we get a reading on the scale.

Our scale is graduated in ounces instead of degrees so that we can immediately make the proper change in presser weight to bring the flyer in balance. *D. V. Sampat, Bombay, India*

## White Reed-Cap Bottoms Help Weavers See To Draw In

The reed cap forms a shadow on warp ends and makes it difficult for weavers to draw in broken ends. Dark warp ends are especially hard to see.

We removed the reed caps from our looms during week ends and painted the bottoms with white enamel. The reed caps were replaced when the paint dried so that we were ready to restart our looms on Monday mornings.

Now that the reed bottoms are white they reflect light on the warp ends and make it easy for our weavers to draw in ends. We also have less warp shedding on the reed caps because shed will not stick to the surface of the enamel. *G. R. Corrinet, Pittsfield, Mass.*

# Guaranteed

## Quality Yarns

THE QUALITY OF BOGER & CRAWFORD KNITTING YARN IS GUARANTEED—THE HIGHEST TRIBUTE WE CAN PAY IT.

Signed
Frederick Boger

**...A Guarantee That Has Held For 46 Years and**

**...Is Doubly Important From Today's Competitive Angle**

Boger & Crawford weaving and knitting 60/2 and 80/2 in spun nylon. Let Boger and Crawford yarns help you produce a product of merit!

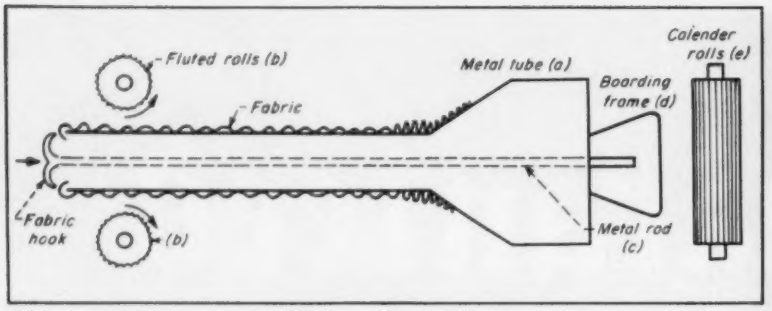
With every order you are protected by our guarantee of quality. 20 wonderful fast colors available. Fastness equal to or better than Synthetic Fiber Test #1 and #2 AATCC.

Specify Boger & Crawford Vitamin "Q"—"Q" for Quality—yarns without delay.

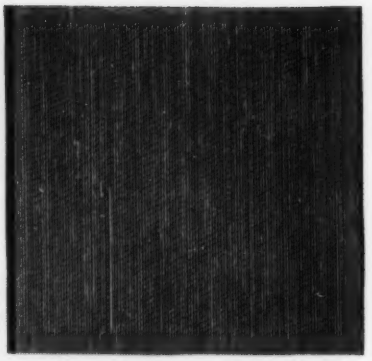
*Write for free samples of colors today!*

**Boger & Crawford**

**K & E. Venango Sts. • Philadelphia 34, Pa.**




TUBULAR FABRICS are turned inside out for napping on this machine.



SAMPLE STANDARD for worsted-yarn evenness. This is Grade A—a 1/30s made from 100% Australian 70's wool.

## Reversing Machine Is for Circular-Knitted Fleecy Fabrics

We are using a special machine to reverse fleecy knit fabrics in circular form. The machine speeds up the finishing processes.

The parts that you'll need, the dimensions of which will vary according to your needs, are: (1) a metal tube a that is conically shaped at one end, (2) two fluted rolls *b*, (3) a hooked metal rod c, (4) a boarding frame *d*, and (5) a pair of calender rolls e.

How it works:

A length of circular fabric is stretched onto the tube, which increases in width at one end to prevent the cloth from falling over the edge. The fluted feed rollers are brought into contact with the tube and rotated. This action feeds the cloth onto the tube in its natural state. The rollers are moved to their outer position, and a long rod, fitted with two hooks, is pushed through the tube. The fabric is placed on the hooks and pulled through the tube and passed over the boarding frame, which is set to the desired width of the cloth. The end is then passed through the calender rolls. When the calender rolls are started, the fabric will be drawn off the tube and delivered in a reversed condition, ready for the next operation. *D. Singer, Philadelphia, Pa.*

## Photographic Standards For Wool Yarns

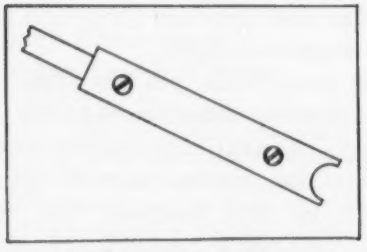
For years there have been photographic standards for cotton-yarn evenness, but no standards exist for other yarns on other systems. We've developed our own standards and find this method very effective in grading yarns.

We photograph samples of each yarn number from each lot. After many months we have been able to establish these standards:

A – excellent
A– – very good
B+ – good
B – fair
C – poor

The yarn is wound on a seriplane and graded. Then we take a picture of the sample to compare with our standards. Dull photographs are preferable.

The system is in use for wool, nylon, Vicara, dynel, Dacron, and all blends of these fibers. Our quality is up, and our customers are happier. *Roland Ferron, Manchester, Conn.*



DAMAGED CLOTH IS ENDED when these plates are placed over cloth-roll-stand blocks.

## Plate on Cloth-Roll Stand Reduces Waste

We had a cloth order that called for weaving 43-in. cloth on 42-in. E-model looms. We replaced the old take-up rollers with longer ones and moved the temples farther apart so that we could run the wider cloth.

But when the wide cloth was wound around the cloth roller, it often was chewed up by the nuts on the cloth-roll blocks. Sometimes as much as 50 yd. of cloth was ruined on one roll.

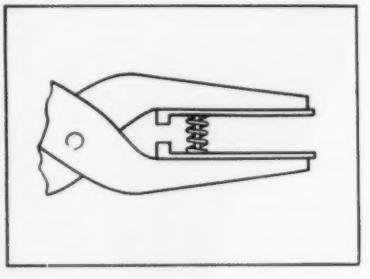
Another problem developed, too. The ends of the cloth tubes were damaged at about the rate of one tube to each two rolls of cloth.

And the rocking action of the cloth roller has always worn our cloth-stand bushing excessively.

All three of these problems were eliminated by plates that we made in our machine shop and put on the looms. The plate is made from ¼-in. strap iron 7 in. long and ½ in. wider than the cloth-roll stand.

The plate is machined to a concave surface on one end to match the surface of the cloth-roll block. Two holes are bored and countersunk in the plate for machine screws. A machine screw is used to replace the capscrew in the cloth-roll stand and the cloth-roll-stand block. A hole is bored and tapped in the cloth-roll stand for the other machine screw in the plate.

We have eliminated a lot of wear at the cloth-stand bushing, have stopped wear to the cloth tubes, and do not have any more damaged cloth at the edges now that we have plates on all our looms. *Paul Hazel, Joanna, S. C.*



## Improve Plier's Grip

**YOU CAN IMPROVE the grip of your pliers by lining the inside face with a hard, fibrous material. The lining should be fitted closely, made in two sections, and held in position by a small spring, as shown. *W. E. Warner, Essex, England.***

# TEXTILE BANKING COMPANY

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*Factoring Service*

Puts your sales on a cash basis
Strengthens your cash position
Relieves you of credit losses

55 MADISON AVENUE • NEW YORK

# How do you insure $746,200,000?

The whole textile industry would like to know the answers to that question...because they spent $746,200,000 on textile mill modernization last year!

While we don't have all the answers, here's one good way of insuring that part of the investment that was spent on machinery . . . and a very simple way, too! JUST ADOPT THE COMPLETE LINE OF CITIES SERVICE LUBRICANTS FOR YOUR OPERATION.

Cities Service Lubricants...specifically designed for the textile industry...are top insurance against costly wear and parts failure. With these quality products you're assured of cleaner machine bearings and shafts, and cleaner finished goods, too. With them you can keep friction, due to gumming and power load, down to the barest minimum . . . KEEP PRODUCTION AT MAXIMUM.

Why not use Cities Service as the single dependable source for lubricants exactly suited to your operation? Test them by turning over your most stubborn lubricating problem to a Cities Service Lubrication Engineer. He wants to help you. He can help you. Simply write CITIES SERVICE OIL COMPANY, Dept. A-38, Sixty Wall Tower, New York City 5.

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*and the Advertisements*

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Dear Editor: JANUARY, 1953

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# *Outstanding* TRADE LITERATURE *Free for the Asking*

**NO REPEATS... Listed here for January are current bulletins reviewed by the editors of TEXTILE WORLD. To get the ones you need, circle the number on the Reader-Service card, as described on the preceding page.**

## TEXTILE MACHINERY

**Bunch builders,** a filling feeler, and a thread cutter are described in a booklet prepared by Columbus Textile Specialty Co. The filling feeler stops the needless waste of finished yarn, and the thread cutter prevents jerk-ins and wild yarns from getting back into the cloth. Both a filling and a warp bunch builder are described. **(F-1)**

**Tenter-rail feeders** are described in a bulletin of Mount Hope Machinery Co. The drive has one unit for each rail, with two induction clutches for opposite directions. The drive units can be mounted inside or outside. **(F-2)**

**A pin-board conditioning machine** for high-twist synthetic yarns is described in a bulletin published by Mona Industries, Inc. The machine was designed to condition twist and prevent sloughing off of synthetic yarns on headless packages. The pin-board carrier oscillates to permit a more even spray from below and eliminates the need for two operators. **(F-3)**

**A sueding range** for spun synthetics is described in a bulletin of Parks & Woolson Machine Co. The machine maps, shears, and brushes in one continuous operation at 50 yd. per min. **(F-4)**

**Twisting machinery** is described in a bulletin put out by Collins Bros. Machine Co. A plain twister, a novelty twister, and a trap twister are shown—also a novelty head with a solenoid pattern chain that controls the novelty-yarn construction. **(F-5)**

**The Holdsworth gill reducer** is described in a bulletin prepared by Atkinson, Haserick & Co. The machine was designed for the abbreviated woolen-yarn system. Ease of accessibility is a feature. The machine is equipped with an electrical stop motion. **(F-6)**

**A rectilinear comb** for rayon and waste is described in a bulletin put out by Société Alsacienne de Constructions Mecaniques. The comb, which has an oscillating nipper and fixed detaching device, has 18 needle bars and a burr knife for the comber cylinder. The normal speed is 90 nips per min. **(F-7)**

**The new Reiner raschel-knitting machine** is described in a bulletin prepared by Robert Reiner, Inc. The machine comes with one or two needle bars and up to eight guide bars. It is offered in 24, 36, or 40 gauge, or to your specifications. **(F-8)**

**An Uxbridge Gentle-Air drying unit** for high-speed slashing that dries up to 750 lb. per hr. is described in a bulletin published by Bachmann Uxbridge Worsted Corp. Under 16 yd. of yarn are in the drying area at one time. The box cools quickly when stopped to prevent damage to the yarn. Any spun yarn is handled by the dryer. **(F-9)**

**Dyeing and finishing equipment** is described in a bulletin of Tower Iron Works. A mechanical pad, a pneumatic pad, a steamer, a washer, dry cans, an ager, and a dyeing machine are specifically covered. **(F-10)**

## AUXILIARY EQUIPMENT

**Marking machines** are featured in two bulletins of Markem Machine Co. One machine is for producing small paper and cloth labels from a blank strip, and it is said that trademarks can be accurately reproduced. The other machine marks parts, boxes, bags, etc. **(F-11)**

**A seal-fed strapping machine** is described in a bulletin of Signode Steel Strapping Co. The machine tensions, cuts, and seals. It is available as a hand machine or can be mounted on a pivoted bracket. **(F-12)**

**An automatic cotton-lap scale** is featured in a bulletin of Toledo Scale Co., Toledo, Ohio. The scale runs on a track in front of the pickers. The scale prints a symbol on a paper strip indicating whether the lap is within tolerance and if not, prints a reject symbol. The operator sees the weight after the symbol is printed. The scale moves from picker to picker with push-button control. **(F-13)**

**Doffmeter for looms** is the feature of a bulletin prepared by Durant Mfg. Co. The Doffmeter eliminates overruns, gives even lengths, and allows maximum production, it is said. It may be driven from sand-roll gear or from a forked coupling. **(F-14)**

**The Brush Uniformity Analyzer** is described in a bulletin prepared by The Brush Development Co. The unit measures and records irregularities in weight per unit length of yarn, roving, and silver. The analyzer also handles filaments, including nylon, rayon, fiber glass, and plastics. **(F-15)**

**A squeeze-roll pressure control** is described in a bulletin of Taylor Instru-


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ment Cos. A dial gives the actual pressure on the rolls, and a knob adjusts the pressure. A spring raises the roll when pressure is cut off. **(F-16)**

**A brine-making manual** has been prepared by Morton Salt Co. Three Morton brinemakers and a wet-salt storage system are featured. **(F-17)**

**"What color cotton?"** This is the question the Colorimeter answers. The instrument is the feature of a bulletin put out by Nickerson-Hunter, Macbeth Sales Corp. It is said to eliminate human errors in cotton classing. **(F-18)**

**"A Few Facts About Humidification"** is the title of a bulletin of Abbeon Supply Co. Too little moisture weakens yarn, decreases elasticity, and increases static electricity and lint in the air. A table of humidities best suited to each department of the mill for wool, cotton, and rayon is given. **(F-19)**

**Portable tachometers,** type 48H, 48J, and 48K, are described in a bulletin of Metron Instrument Co. The tachometers have ¼% accuracy and a spread scale and are hand engaged. The range is from 36 to 100,000 rpm. **(F-20)**

## SUPPLIES AND CHEMICALS

**Boards, racks, and trucks** for handling yarn are described in a bulletin put out by Sterling Engineering & Mfg. Co. The equipment is stainless or cadmium-plated steel to resist corrosion. The trays are self stacking, and the trucks have rubber tires. One board for headless packages has a self-releasing ring so the operator's hands don't come in contact with the yarn. **(F-21)**

**A manual on soda bleach solutions** is issued by Diamond Alkali Co. The manual reviews the latest procedures for the preparation of sodium hypochlorite solutions. Charts list the quantities of materials necessary to make 1,000 gal. of stable solution. **(F-22)**

**Lubritone,** an antistatic finish, is described in a bulletin of Chas. S. Tanner Co. The finish is recommended for full-fashioned hosiery yarn and is said to soften fabrics, lubricate natural and synthetic fibers, and improve the abrasion resistance of resin-finished fabrics. **(F-23)**

**Lumber** that has been pressure treated with Wolman salts is described in a brochure prepared by American Lumber & Treating Co. The treatment protects the lumber against decay and termites. A list of service records shows several installations in wet-processing textile mills with over 20 yr. service. **(F-24)**

**Lift-truck attachments and accessories** are described in a bulletin put out by Hyster Co. Attachments are devices for doing special tasks such as handling bales, drums, or pallets; and accessories are extra equipment such as cabs, lights, and special lug tires. **(F-25)**

**A conveyor system** for handling comparatively light loads such as 15-lb. loads on 12-in. centers is described in a booklet prepared by Mechanical Handling Systems, Inc. All aspects of the system such as track bends, reverse curves, corner turns, and expansion joints are discussed, and suggestions for conveyor design are included. **(F-26)**

**A towel-dispensing cabinet** that will cut towel waste up to 50% is described in a bulletin of Bay West Paper Co. You push a button, turn a crank, and you get a pure sulfate, natural brown towel, 477 to a roll. **(F-27)**

**Protective paints** are featured in a bulletin of Wilbur & Williams Co. The paints are specialized maintenance coatings to conquer rust, dampness, chemical corrosion, painting odors, and fumes. A quick reference index gives the proper paint for the specific problem. **(F-28)**

**"Carrier Dyeing of Dacron** with Benzoic or Salicylic Acid" is the title of a booklet prepared by Heyden Chemical Corp. The booklet gives favored pro-

**B. F. Goodrich Chemical Company**

# Textile Highlights

**FOR JANUARY**

## Crease and wrinkle resistance

IMPROVED abrasion resistance is obtained through the use of Hycar latex (water dispersion of a butadiene-acrylonitrile copolymer) in conventional crease and wrinkle resistance compounds. Hycar latex is added as a partial replacement for the urea or melamine resin, and gives the finished fabric abrasion and wear properties equivalent to those of the unmodified gray goods.

Where crease and wrinkle resistance are desired along with appreciable change in "hand", Geon latices (water dispersions of vinyl resins) offer a wide range of possibilities to the textile industry. These latices are available in many forms, both plasticized and unplasticized. This variation in starting material plus unlimited possibilities in compounding offers the finishing plant a versatile raw material.

There are many other ways in which B. F. Goodrich Chemical Company materials serve the textile industry. Hycar latices are widely used as pigment binders. Geon resins and latices are used as fiber binders, coatings and finishes. Good-rite sizes improve the processing of nylon and acrylic fibers. We will be glad to furnish additional information on these materials. Write Dept. TH-1, B. F. Goodrich Chemical Company, Rose Building, Cleveland 15, Ohio. Cable address: Goodchemco. In Canada: Kitchener, Ontario.

**B. F. Goodrich Chemical Company**
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## Reader Service (Continued)

cedures for using these acids as carriers in the dyebath for Dacron fabrics. **(F-29)**

**Clorpactin CXW,** a new bleaching and stripping agent, is described in a bulletin prepared by Guardian Chemical Corp. Directions for its use are given, and a comparison of the agent to sodium and calcium hypochlorite is presented. **(F-30)**

### ENGINEERING AND MAINTENANCE

**Annunciators** for safety-signaling systems are described in a bulletin prepared by Tigerman Engineering Co. Hermetically sealed, plug-in relay units are available in over 50 standardized operational circuits. The prewired common chassis has uniform bus and relay socket wiring. **(F-31)**

**Cotton-card drives** are featured in a bulletin put out by Westinghouse Electric Co. Three models are offered—the Gearmotor, the Totally Enclosed, and the Lint-Free. The Totally-Enclosed motor is 2 in. shorter than conventional motors, the Lint-Free motor has an "aero-dynamic" design, and the Gearmotor has a speed reducer. The controller is lint tight and rustproof. **(F-32)**

**Twister-ring lubrication** with an automatic central system is explained in a bulletin published by Bijur Lubricating Corp. The lubricator is driven from the drum shaft and operates at predetermined intervals. The ring and rail are drilled for oil passages. The system is said to even thread tension, provide better ballooning, and maintain constant traveler drag. **(F-33)**

**"Simplified Lubrication of Textile Machinery"** is the title of a bulletin prepared by Keystone Lubricating Co. Two greases, one liquid and the other of grease-gun consistency, are featured in the bulletin, and wide applications of these two greases in preparation, spinning, weaving, and finishing are listed. **(F-34)**

**Industrial fans** are described in a bulletin of Chelsea Fan & Blower Co. A feature is a heavy-duty fan with a nonoverloading, air-foil blade. The fan operates against static pressure. **(F-35)**

**Card motor controls** for individual card drives are described in a bulletin put out by Cutler-Hammer Motor Controls. The control has a padlocked reverse and is said to be compact and lint tight. An eutectic element provides overload protection. **(F-36)**

**Felt tape** with an adhesive on one side that can be given a permanent bond with a reactivating agent is described in a bulletin prepared by Spring Packing Corp. The felt seals against dust, air, fumes, and moisture, eliminates ratties, and cushions vibrations. It is recommended for gaskets. **(F-37)**

**Hydraulic and hand tools,** and how to get 1,001 shortcuts with them, are discussed in a booklet put out by Blackhawk Mfg. Co. Included are jacks, pipe benders, knock-out punches, pumps, torque indicators, and hand tools. **(F-38)**

**Maintenance problems** are solved with a variety of resurfacing compounds offered in a booklet prepared by Stonhard Co. For instance, a resurfacer that requires only ½ in. of topping, with no ripping up, air hammering, or expensive labor is described. **(F-39)**

**Lathes, drill presses, and shapers** are described in a booklet prepared by South Bend Lathe Works. The lathes have a quick-change gear mechanism and an underneath motor drive. **(F-40)**

**Bulk-Flo,** a feeder, conveyor, and elevator in an enclosed assembly, is described in a brochure published by Link-Belt Co. Compartments on an endless chain convey flowable materials in a variety of paths, including L-shaped paths and vertical run-arounds. **(F-41)**

**A unit steam generator** is featured in a bulletin of Preferred Utilities Mfg. Corp. The generator has 5 sq. ft. of heating surface per boiler hp. No stack

# Always Uniform

**Starch, as well as golf balls, requires precision control in every manufacturing step to maintain unvarying high quality.**

**That's why over the years Victor Mill Starch has become known far and wide as "The Weaver's Friend."**

**Victor provides better penetration, stronger warps, smoother surface, less shedding, fewer slashing problems. Rely on it . . . and the Keever man who serves you.**

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# MOBILIFT FORK LIFT TRUCKS

A MOBILIFT operator can see the fork-ends when he picks up a load ...he can see where he's going! There's no groping for the load... no craning around vision-obstructing cylinders. *Unlimited visibility* between Mobil-chain uprights is just ONE reason you get faster, safer, more economical materials handling with Lev-R-Matic Drive MOBILIFTS. Here are other reasons why you can handle materials at less cost with MOBILIFT:

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- **Powerful 3-cylinder gas engine.**

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2000, 2500, 3000, 3500-lb. capacity.
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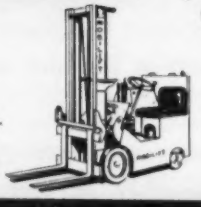
Special Masts to order.
Write for complete specifications.



**SIT-DOWN MODEL**
2000, 3000-lb. cap.
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Special Masts to order.

MOBILIFT Lev-R-Matic DRIVE

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2730 San Pablo Ave., BERKELEY


## *Reader Service* (Continued)

is necessary, and the minimum thermal efficiency is 80%. **(F-42)**

### GENERAL

**"Your Skill Improvement Program"** is the title of a booklet prepared by Bureau of Apprenticeship, U.S. Dept. of Labor. The booklet discusses the organization and operation of a skill-improvement program and provides a checklist for you to evaluate your present training. **(F-43)**

**A moisture-regain index,** the new edition, has been prepared by U. S. Testing Co. The index is printed on a pocket-sized card and includes natural fibers and synthetics. **(F-44)**

**Personnel-testing materials** available from Science Research Associates have been cataloged by that company. The catalog covers all kinds of aptitude tests, training devices, and books put out by that organization. **(F-45)**

**"A Guide for Selling to the United States Air Force"** has been published by Public Relations Office, Air Materiel Command. All changes in procurement have been included. An important chapter is on the decentralization of Air Force buying. **(F-46)**

**An accounting machine,** called the Sensimatic, is described in a brochure put out by Burroughs. The machine is said to be excellent for payroll and distribution and for accounts receivable and payable. Its features are said to be its economy, flexibility, simplicity, speed, and operator appeal. **(F-47)**

**Planning to expand?** Walter Kidde Constructors, Inc., has published a booklet called, "Factors Influencing Industrial Plant Location." Sixty-four questions that determine a new location have been compiled in the booklet. **(F-48)**

**Cellular-glass panels** for wall construction are described in a bulletin of Pittsburgh Corning Corp. Six inches are equal to 30 in. of face brick, it is said. The panels are light weight, incombustible, verminproof, and resistant to moisture, chemicals, and other elements. **(F-49)**

**A payroll-accounting machine** with an automatic multiple-tax computer is featured in a booklet published by The National Cash Register Co. The machine will provide 50 totals for distribution and 28 totals for payroll writing. **(F-50)**

## Pointers for Supervisors

(Continued from page 162)

five bobbins. To start with fewer bobbins and then to shift to five would present the trainee with an extra and unnecessary learning task. She has to get the "feel" all over again. Adding bobbins is not a simple matter of arithmetic; it requires that the whole series of positioning and movements be reorganized and established as a new pattern. This takes time. It is better to start in with the right method at the beginning.

### Relearning Is Wasteful

In other training situations, where the number of units handled is not a factor, the principle of teaching the right method still holds good. If the approved method of putting up an end on a spinning frame is to throw or twist the end in, that method should be taught from the start. There is

# ALSIMAG®

# 193

## ELECTRICALLY CONDUCTIVE

### THREAD GUIDES IN SATIN FINISH

**AlSiMag guides are used by every large producer and most major processors of synthetic yarns. Two trends in guides are now evident.**

**SATIN FINISHES.** Most mills processing synthetic yarns have found the SATIN FINISH most satisfactory. Reason: the satin finish gives lighter contact between yarn and guide. Lighter tension means better yarn control, better and faster handling and less generation of static electricity.

**ELECTRICAL CONDUCTION.** Satin finish cuts down but does not eliminate static on some processes. Electrically conductive guides, properly grounded, will bleed off the remaining static in these processes.

ALSIMAG 193 electrically conductive guides in satin finish meet these requirements. TEST SAMPLES FROM OUR FILES ARE SENT ON REQUEST. The illustration shows only a small part of the designs available.

**P. S.** ALSIMAG 192 (usually considered our standard material) and ALSIMAG 513 (our hardest, strongest, longest wearing material) also solve many guide problems. Any ALSIMAG guide is available in either the satin or polished finish.

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**ORDERS FROM HUNDREDS OF DIFFERENT PROCESSORS OF SYNTHETIC YARNS SHOW TWO MARKED TRENDS IN THREAD GUIDES**

**1. SATIN FINISHES 2. ELECTRICAL CONDUCTION**

# NEW WAY TO CUT MAINTENANCE COSTS

## FULLER Sweeping Mop Sweeps and Dusts in One Operation

2400 Line

**COVERS LARGE AREAS** . . . Designed for large, polished floor surfaces such as wide aisles, corridors, etc. Available in widths up to 48".

**RAISES NO DUST** . . . Gathers dust instead of scattering it.

**FULLY WASHABLE** . . . Made of 4-ply long-staple cotton, 4" trim, permanently attached to pre-shrunk canvas backing.

**SIMPLE TO REPLACE** . . . Just unzip the zipper . . . no tapes or ties.

**WILL NOT ROLL** . . . Rugged metal frame and handle attachment prevents the mop head from rolling on floor.

**FULLER TEXTILE BROOM**

Saves You Money • Outwears All Other Brooms

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**Power driven brushes, Factory & Institutional cleaning tools, Waxes & Detergents**


always a temptation to teach a doffer learner to lay in the end, since this method is easier to learn. But we can't expect to shift the trainee over to the throwing method without difficulty. The trainee must relearn the task; the skill he has acquired in the one method will not carry over to the other.

In summary, the old debate about speed and accuracy is rather pointless if the factor of job method is ignored. No matter what is emphasized, the training is inefficient unless the trainee is given practice in the right job method or is moved along to the ultimate methods with minimum sidetracking into intermediate methods.

---

## Textile Community

(*Continued from page 164*)

placed, are easily recognized roadmarks and are so used by travelers. Many depended on the Fieldcrest Mills sign to mark the turn-off of U. S. Highway 29 south toward Draper, Leaksville, and thence to Winston-Salem. When the new highway was opened last spring, more than one traveler went miles out of the way in the short interim before the Fieldcrest signpost was moved to a new location on the recently opened highway. Now it is there again and identifies the important crossroad for all.

One of the landmarks in the South is the huge sign of Dundee Mills at Griffin, Ga. The letters of the electrically lighted "super-colossal" are 12 feet high and can be seen from the railroad, from U. S. Highway 41, and from the air. The sign was built in 1939 at a cost of $2,685. With the exception of one short period when it was being repaired, it has blazed its message each night. It can be seen for many miles.

### Aid to Navigation

A few years ago when it was temporarily blacked out, a courteous letter to the mill president from the head of CAA's Atlanta office requested that the sign be relighted and kept burning all night as an aid to navigation. It was pointed out that it had become a checking point on flights in and out of Atlanta. "Dundee towels 210—check" was the radioed message to and from pilots, and it was stated that at least one life had been saved by that sign and the signal. Perhaps many pilots who would otherwise have been lost in the area had been checked home by Dundee.

The late John Cheatham, president of Dundee, assured CAA that the sign would always be there in the future as a guiding light to pilots—and, inci-

Four Louis Allis Type KWA "Soft Start" Motors Driving Roving Frames. Note the small "across-the-line" starters.

# Reduce "Ends Down" Time with

# LOUIS ALLIS "Soft Start" Motors

Here's another Louis Allis "first" — the motor specifically designed for roving frames, special spinning frames, spoolers, quillers and all applications requiring a smooth, soft start. It reduces installation costs and "ends down" time for increased production.

**Special electrical design** gives smooth, soft start, gradually increasing acceleration torque. Acceleration is slow, stepless, gradual.

**Across-the-line** starting is possible due to the special electrical design.

**Special motor connections** furnish higher torque for "break-in" period. Leads can then be easily changed to the lower torque connection to fully utilize the "soft start" feature.

**Excellent jogging characteristics.** Design provides accurate, positive positioning.

**Louis Allis self-cleaning construction** throughout. Smooth, streamlined contours do not let dust or lint adhere to any motor surface.

**Sizes and speeds** to fit every textile machine application, 2 horsepower to 7.5 horsepower, 900 and 1200 RPM are standard. Other sizes and speeds available on request.

**The Louis Allis "Soft Start" Self-Cleaning Textile Motor** is the drive you've been looking for. Its slow, easy start without need for an expensive reduced voltage starter — its other outstanding features — make it the answer to *your* drive problems. Write today for further information or contact the Louis Allis district office nearest you.

TE-101

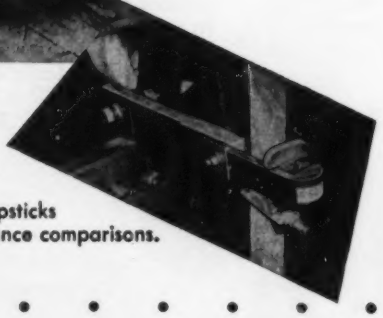
**THE LOUIS ALLIS CO., Milwaukee 7, Wisconsin**

We specialize in SPECIAL MOTORS
Extractor Motor with Integral Blower
Ajusto-Speed with Eddy Current Brake
Special Arbor Type Motor
Splash-Proof Motor with Flange
Self-Cleaning Textile Motor
Gearmotor
Single Phase Pump Motor with Tripod Base
Sanitary Motor
Blower Ventilated Frequency Converter
Rolled Shell Shaftless Motor
Oil-Well Pumping Motor
Standard or special — we build it. Whatever electrical or mechanical modifications or features you need, there is a Louis Allis motor that will do your toughest jobs better.

# HEIM *Unibal*
## SWEEPSTICK

**After three years of use by mill owners and loom operators, performance records indicate that the Heim Unibal Sweepstick lasts longer, delivers smoother pick action, and eliminates elongated stud holes, readjustment of power stroke, and resulting kinks and loops in cloth.**

**Detail of loom and close up view of Heim Unibal Sweepstick assembled on Crompton & Knowles S-6 loom.**



**You can cut down-time due to sweepstick failures to a minimum — install Heim Sweepsticks on your looms.**

**Order just one pair of Heim Sweepsticks now and make your own performance comparisons.**

**SWEEPSTICK DATA AND PRICES ON REQUEST** } **THE HEIM COMPANY**
**FAIRFIELD, CONNECTICUT**


dentally, as a matter of pride to those in the community of Griffin.

### Check Your Own Signs

If you haven't thought about revising your sign plans lately, why not take a look at what you have? See if trees have grown up to block the sign from the traveler's vision. See if the weather has damaged its freshness or obliterated its message. Take a highway count to see what percentage of travelers by car can see your sign. Check to make sure it can be seen from passing railroad cars if you are adjoining the tracks.

Then give your community a break. Tell the traveler what your mill is and what it means in product to the American standard of living. A good sign will be a relatively small investment in dollars and cents but a great one in community good will and better understanding.

---

## Textile Equipment News

(*Continued from page 186*)

The heart of the variable-speed equipment is a specially developed magnetic amplifier, or two or three of them if needed. The Germans used a similar amplifier during World War II, and the Bogue organization has adopted it for use as a precision regulator in power-generating systems.

The TranTork control is available for motors of all sizes, from fractional to 200-hp. units, and can automatically maintain constant tension, constant torque, or constant speed. Similarly, it can provide continuously variable adjustment of tension, torque, or speed.

Constant tension of goods in process, for example, can be maintained directly by TranTork amplifiers. The need for dancer rolls or other mechanical tension-maintenance devices on processing machinery is thus eliminated. Most industrial installations of the equipment so far perform direct from motor characteristics obtained under varying processing conditions.

In the majority of cases, space requirements of the drive control are less than those needed for automatic drives incorporating electronic devices. A 5- or 10-hp. motor requires a controller approximately 3x2x1½ ft.

A controller need not be in the vicinity of the machine being regulated, except, of course, for start, stop, and jog buttons.

## Laminated Rolled Tubing For Winding Glass Fibers

A special rolled tubing made of Dilecto (a laminated, paper-based,

# CONTRACOATER*

**A REVERSE ROL**

**COATER**

**for the**

**ganisols •**

**plastisol**

**fabric and film**

Arrange for your materials to be trial-coated on the "Contracoater" in the new Dilts Laboratory at Fulton. Bulletin DLF-1005 describes the new laboratory and outlines the arrangements for its use.

## DILTS MACHINE WORKS, Fulton, New York

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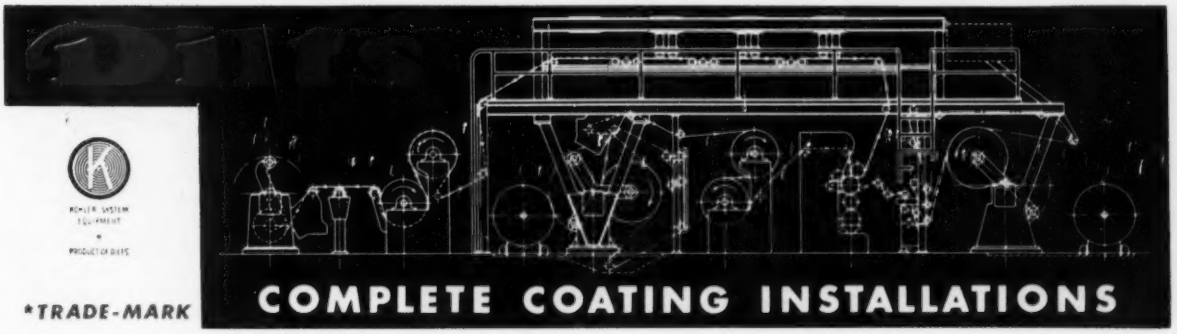

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**COMPLETE COATING INSTALLATIONS**



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# LOWELL Shuttles

## DOGWOOD OR PERSIMMON FIBRE-COVERED OR PLAIN

1. Shuttle for carpet loom 2. Shuttle for automatic wool or worsted loom 3. Shuttle for plain worsted loom 4. Shuttle for automatic cotton loom (equipped with brass threader) 5. Shuttle for automatic cotton loom (equipped with cast iron threader) 6. Shuttle for silk or rayon loom (equipped with Paterson tension and fibre covered on one side)

LOWELL SHUTTLES, widely recognized for their quality for more than half a century, include automatic and non-automatic types for all kinds of textile fibres and mills. Lowell Fibre Covered shuttles prevent roughing-up of yarns and the covering is applied to stay. The wood is thoroughly seasoned, carefully dried and finished to specifications. Shuttles can be furnished with automatic tension eyes, if desired.

***WRITE FOR LOWELL SHUTTLE CIRCULAR***

**LOWELL SHUTTLE COMPANY**

*Established 1896 • Incorporated 1914*

**15 TANNER ST. LOWELL, MASS., U. S. A.**

*SALES REPRESENTATIVES*

Hendrik Van Brederode, 311 Godwin Ave., Midland Park, N. J.; W. P. Russell, P. O. Box 778, Atlanta, Ga.; West Philadelphia Supply Co., Emerald and Somerset Sts., Philadelphia, Pa.; E. B. Smith, P. O. Box 3085, Greenville, S. C.


thermosetting plastic manufactured by Continental-Diamond Fibre Corp., Newark 150, Del.) has been developed for winding glass fibers. Bobbin bodies made from this new material possess higher mechanical strength than standard XX rolled tubing and have uniform balance and no whip.

Light tan in color, the new grade "XX-80" tubing has been processed to resist heat, moisture, and chemicals. The outer surface is sanded and buffed to give an unusually smooth finish. Tubing is supplied with a ±0.005-in. tolerance on the inside diameter and is available in a wide variety of diameters and lengths.

## New Floor-Marking Applicator Eliminates Extra Man's Labor

**QUICK AND EASY APPLICATION** of pressure-sensitive tapes up to 4 in. wide is possible with this portable unit.

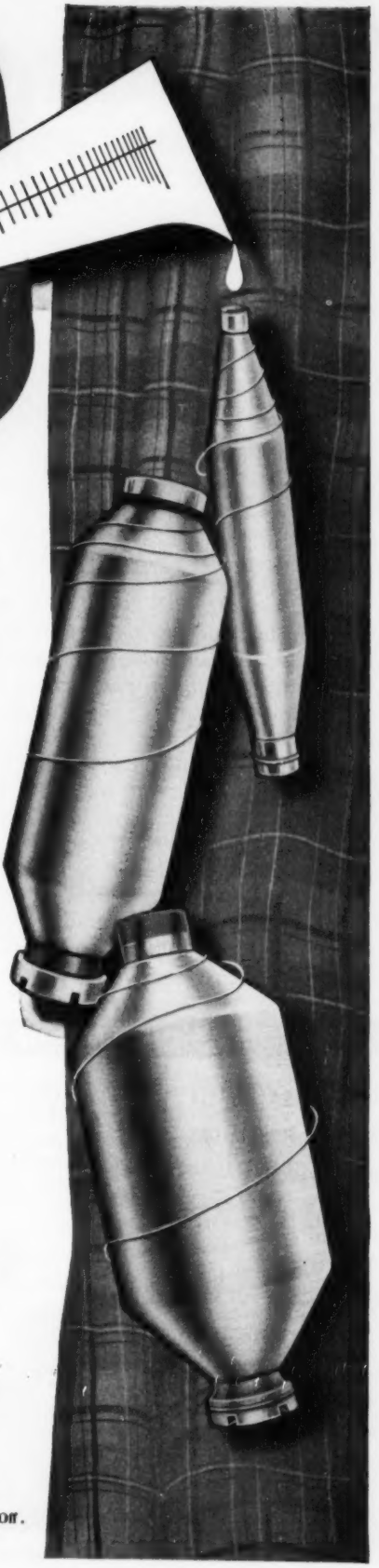
A new, light-weight applicator for applying lane-marking tape to industrial and commercial floor areas has been announced by Minnesota Mining & Mfg. Co., 900 Fauquier St., St. Paul 6, Minn. The new unit is designed to semiautomatically apply strips of the company's plastic film tape No. 471 to mark trucking lanes, aisles, storage areas, and safety zones on floors. Price is $24.

Formerly two maintenance men were needed for the tape-laying job, and the job required two operations—laying the tape and then rolling it firmly in place. With the new applicator, only one man is needed, and the tape is applied and rolled in a single step.

To use the new tandem-wheeled applicator—consisting of one guide and one pressure wheel—the operator simply pushes it along the floor with


For more information, write direct or use Reader Service post card.

# ALL TYPES OF FIBERS AND FABRICS are more economically and easily processed with NOPCO® TEXTILE CHEMICALS



Nopco-developed processing chemicals are "lending a good right hand" to manufacturers throughout the textile industry. For whether it be natural fibers, synthetics, or blends, users of Nopco's scientifically prepared chemical aids and assistants are realizing new economies in processing.

**TYPICAL EXAMPLES OF NOPCO TEXTILE CHEMICALS ARE:**

**The Nopcostat* Series** ... a complete range of processing and finishing aids for all types of fibers. *Contain maximum antistatic control.*

**The Nopcowet* Line** ... a series of exceptionally effective wetting and rewetting agents. *Applicable in strong and mild acid, alkaline, and neutral solutions.*

**The Nopcone* Oils** ... an extensive group of coning products built to produce optimum cone qualities in coning and winding operations. *For all yarns.*

**The Nopcotex* Softeners** ... a broad line of high quality softening compounds for all types of fibers and fabrics.

More than 150 Nopco processing chemicals are busy helping to improve the quality of textiles, reduce waste, lower production costs. We'll gladly supply information — and make recommendations based upon your particular needs.

NOPCO TRADEMARK EVOLVED THRU RESEARCH

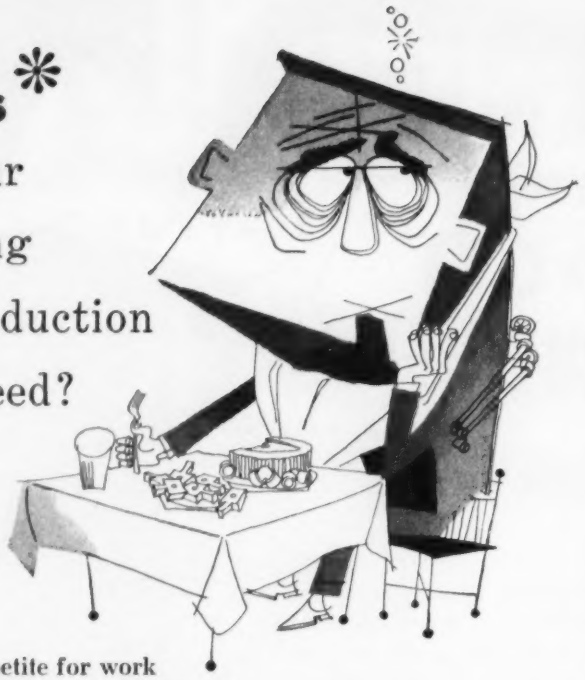
**NOPCO CHEMICAL COMPANY**
HARRISON, NEW JERSEY
Branches: Boston, Chicago, Cedartown, Ga., Richmond, Calif.

® Reg. U. S. Pat. Off.
* *Trademark*

does

**coil-itis** *

have your processing tank production off its feed?



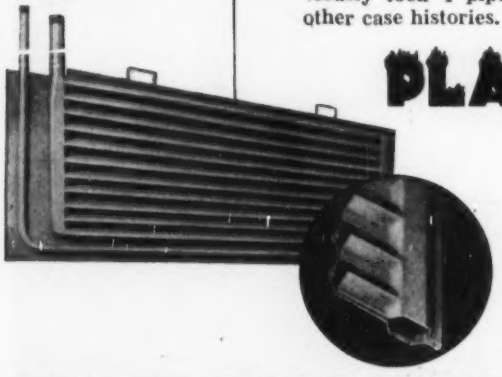
When the appetite for work of your heating and cooling processes diminishes, the trouble may well be coil-itis. For, downtime due to pipe failures and limitations can seriously delay your production flow. Switch to Platecoils, the new tonic for production, as revolutionary as the new wonder drugs. Platecoils take 50% less tank space leaving more room for greater payload. They heat or cool 50% faster. They simplify maintenance and save hours of downtime. Equally important, Platecoils cost as much as 50% less in the first place. Platecoils cure production troubles involving heat transfer and give production a shot in the arm.

**Write for Bulletin P32 today!**

**PLATECOILS SAVE 50% IN HEAT TRANSFER COSTS**

**PLATECOILS ELIMINATE A 6-TO-8 HOUR-A-DAY CHIPPING JOB**

At Sealed Power Corp., installation of Platecoils has completely eliminated a 6-to-8 hour-a-day chipping job. Three Platecoils now heat a tank that previously took 4 pipe coils. Ask about other case histories.



**PLATECOIL**

**REPLACES PIPE COILS**

*

Coil-itis — Diagnosed as tank heating and cooling problems. Platecoils — the prescription for solving pipe coil problems.

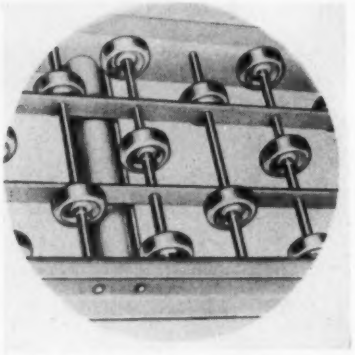
**PLATECOIL DIVISION, KOLD-HOLD MANUFACTURING CO., LANSING 4, MICHIGAN**



the aid of a waist-high handle. The tape, in widths up to 4 in., is fed off a roll-holding attachment, goes under the pressure wheel, and is applied to the floor in a continuous strip.

The pressure wheel is engineered to apply the tape smoothly to all types of floor surfaces, including those with crevices and depressions often found in older wood and concrete floors.

## Aluminum-Frame Gravity Conveyor Can Take Heavy Loads



**LIGHTER WEIGHT of this conveyor construction makes the unit highly portable yet durable.**

A new steel-wheel aluminum-frame gravity conveyor that combines strength with lightness has been announced by Rapids-Standard Co., Inc., 342 Rapistan Bldg., Grand Rapids 2, Mich. The new model is designed to be a highly portable conveyor that has the durability to stand up under heavy loads.

The conveyor is manufactured in 45 and 90° curves; 5-, 8- and 10-ft. lengths; and 12- and 18-in. widths. It is available with a choice of wheel spacings ranging from 6 to 18 wheels to the foot.

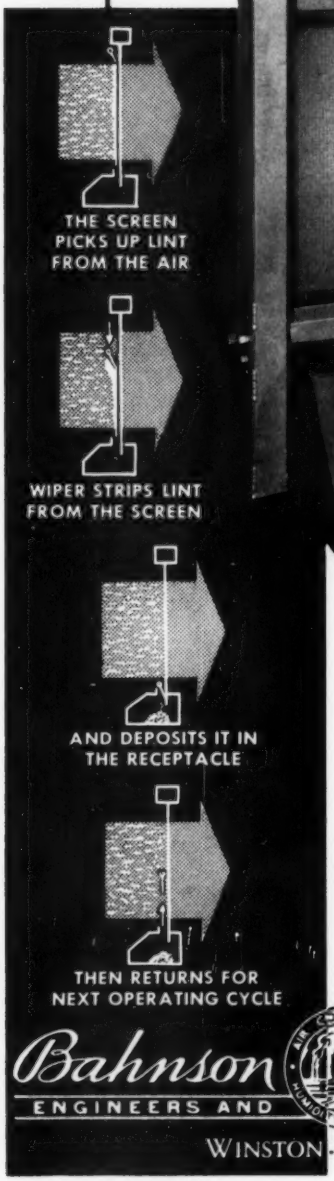
A five-ft. section 12 in. wide with 8 wheels to the foot weighs 23 lb. yet will support a half-ton distributed load.

## Axminster-Carpet Jacquard Motion Selects Up to 12 Colors

A modified type of axminster-carpet jacquard head that uses punched cards, capable of selecting up to 12 colors—50% more than many heads now in use—has been announced by John T. Hardaker Ltd., Bradford, England.

The machine is designed so that a hole in the card selects the appro-

# CLEANER *LINT-FREE* AIR
## at lowest maintenance costs!


THE SCREEN PICKS UP LINT FROM THE AIR
WIPER STRIPS LINT FROM THE SCREEN
AND DEPOSITS IT IN THE RECEPTACLE
THEN RETURNS FOR NEXT OPERATING CYCLE

### Bahnson "*Type S*" Air Cleaner

Handling up to 30,000 cubic feet of air per minute—more with multiple units!—the Bahnson Type S Air Cleaner fits over any recirculated air intake... traps lint with 32-mesh screen and automatically cleans the screen at adjustable intervals. Easily installed and self-contained, this unit cuts your maintenance man-hours to a bare minimum. No filter media to be replaced... no filter cells to be cleaned... salvages all lint. *Less cost from every angle... but cleaner, lint-free air for more efficient mill operation!*

***Send coupon for full information and complete technical data.***

MAIL TODAY!

Simply fill in coupon, attach to your company letterhead and mail to Bahnson Company, Winston-Salem, N. C.

NAME_____

POSITION_____

(Type S)

Bahnson Company
ENGINEERS AND MANUFACTURERS
WINSTON-SALEM, N. C.

**This wooden dye house roof has defied rot since 1924!**

• The constant presence of steam and condensate had made the dye house roof a continuing source of maintenance expense to Belding-Corticelli at Putnam, Connecticut.

But—in 1924 they replaced the old roof on the dye house with "Wolmanized"* pressure-treated lumber. The results speak for themselves . . . as does Mr. L. L. Brown, Belding-Corticelli's Master Mechanic, ". . . still in good condition—taking a beating of steam and condensate every day".

"Wolmanized" lumber can solve many of your maintenance problems caused by the moisture that is always present in dye houses and bleacheries. Ask your architect or plant engineer about genuine "Wolmanized" *pressure-treated* lumber . . . or write for complete information and the folder, "Wood Preservation".

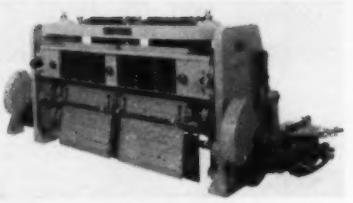
**Visit us at the Southern Textile Exposition**
**Greenville, So. Carolina—October 6 to 11, 1952**

**American Lumber & Treating Company**

**General Offices: 1601 McCormick Bldg. • Chicago 4, Illinois**

*Offices: Little Rock, Ark. • Portland, Ore. • Boston • Los Angeles*
*San Francisco • Baltimore • New York • Jacksonville, Fla.*

**Wolmanized**
*PRESSURE TREATED*
**Lumber**
*Reg. U. S. Pat. Off.

**PUNCHED CARDS** have replaced the endless paper roll formerly used by this axminster-carpet jacquard motion available from Britain.

priate-color end and so reduces the amount of cutting required. This arrangement also gives added strength to the cards by the simple fact that fewer holes are punched in each card. Selectors lift only the same distance as on the eight-color jacquard. Selector cams are fitted to the machine.

The new jacquard motion is a modified version of the machine first featured at the British Industries Fair at Castle Bromwich last year, the only major difference being the employment of punched cards in place on the endless paper roll.

## Portable Loading Ramp Does Work of 10 Men

**STANDBY TIME** of trucks and men can be eliminated by this easy-to-move loading ramp.

A portable loading ramp unit with push-button control that enables one man "to perform the work of 10" has been introduced by John B. Illo Engineering Co., 2414 E. 57th St., Los Angeles 58, Calif. Low in price, the new unit eliminates costly standby time of trucks and men waiting to load or unload.

Portability and adjustibility are the important features of the loading ramp. It can be installed in 5 min. at any loading dock. Its hydraulically operated dock lift adjusts to any truck-bed height in a few seconds.

Available in two models, manual or electrically powered, the unit can cut loading costs by as much as 75%. Deck-travel width of 24 in. allows forklift trucks to be driven right into trucks. The diamond floor pattern assures maximum traction.

The ramp has an adjustable throw

# SAVE HALF YOUR MONEY

...own a

*Hayssen*

automatic

# TEXTILE WRAPPING MACHINE

A Hayssen unit costs you less than you think and occupies about half the usual floor space. This machine wraps 35 or more packages per minute with one operator. You get a neat, tight, uniform package with electric-eye registration of printed overwrap . . . extra protection for your product and increased sales appeal.

## A FULL LINE OF MACHINES WRAP

**Sheets, Pillow Cases, Bolts of Fabrics, Curtains, Underwear, Shirts, Towels, Handkerchiefs, Hosiery, Batting, Yarn**

The Hayssen Textile Wrapping Machine handles heat-sealing cellophane, pliofilm and polyethylene. It overwraps cartons, trays, flat cards and u-boards . . . handles the most delicate fabrics and fluffy material like cotton and wool bats. Special attachments (electric eye, roll-type top labeler and printer, card or u-board feeder) are available.

Over 42 years' experience gives Hayssen machines unmatched performance, low first cost, overall economy of operation and maintenance. Many Hayssen units are in use today that were purchased over 20 years ago.

*WRITE for folder on Hayssen Textile Wrapping Machines. Tell us your wrapping problems —we have the answer.*

IT PAYS TO WRAP THE HAYSSEN WAY

*Hayssen* MFG. COMPANY

Dept. TW-1, SHEBOYGAN, WISCONSIN

Since 1910, One of the World's Largest Manufacturers of Wrapping Machines

 For more information, write direct or use Reader Service post card.

**For Confirmation of What You Are Told About the Dyeing Qualities and Color Ranges of . . .**

**NYLON, ORLON, DACRON, ACRILAN, DYNEL, FIBER "E," VICARA**

**or any other man made yarns**

consult Globe's technicians. Our laboratory is fully equipped to test samples of the yarns you consider using, alone or in combinations with other natural or synthetic yarns.

*For dyeing of natural or synthetic yarns—*
**"YOU CAN RELY ON GLOBE"**

*We do package dyeing on tubes, skein and warp mercerizing, and sizing.*

Globe DYE WORKS CO.

Yarns we process include cotton, rayon, worsted, nylon, linen, blend and novelty yarns. Also, the new synthetic yarns.

**1865** **1953**

**4500 Worth Street** **Philadelphia 24, Pa.**


plate that can be raised or lowered for installation inside buildings without interfering with doors. The throw plate can be locked in horizontal position during loading, as can the deck, to prevent accidental moving.

Leg supports, which are not required for "recessed" installations, are furnished with "in-front-of-dock" ramps.

The unitized power unit assembly consists of two 110-v., single-phase, ½-hp., ball-bearing, dripproof motors directly connected to a ⅜-in. standard Viking 350-lb.-pressure hydraulic pump. Just plug into any light socket, and the dock is ready to operate.

## Butt-Seam Sewing Machine Mounted on Portable Base

**GRAY-ROOM sewing machine for butt-seaming, called the "Supreme," is now offered on a portable stand by Birch Bros., Inc., 32 Kent St., Somerville, Mass.**

**For use in bleach houses, for example, where rapid and continuous sewing of ends is required, the mobile unit can saw 140 seams per hr. on 40-in. cloth. The machine automatically marks the cloth with its lot number as the seam is made. The machine sews one seam while the operator prepares the next one.**

## 20- to 25-Hp. Variable-Speed Drive Available in Enclosed Fan-Cooled Model

Variable-speed electric power drives called "Speed-Trols," in the range of 20 to 25 hp. with 2-to-1, 3-to-1, and 4-to-1 speed variation, are now avail-

# Are space and weight savings vital?

## *here's how leading aircraft manufacturers get them with* NEEDLE BEARINGS

Torrington Needle Bearings are integral design features in many leading aircraft because of their light weight and compactness coupled with their high rated radial capacity.

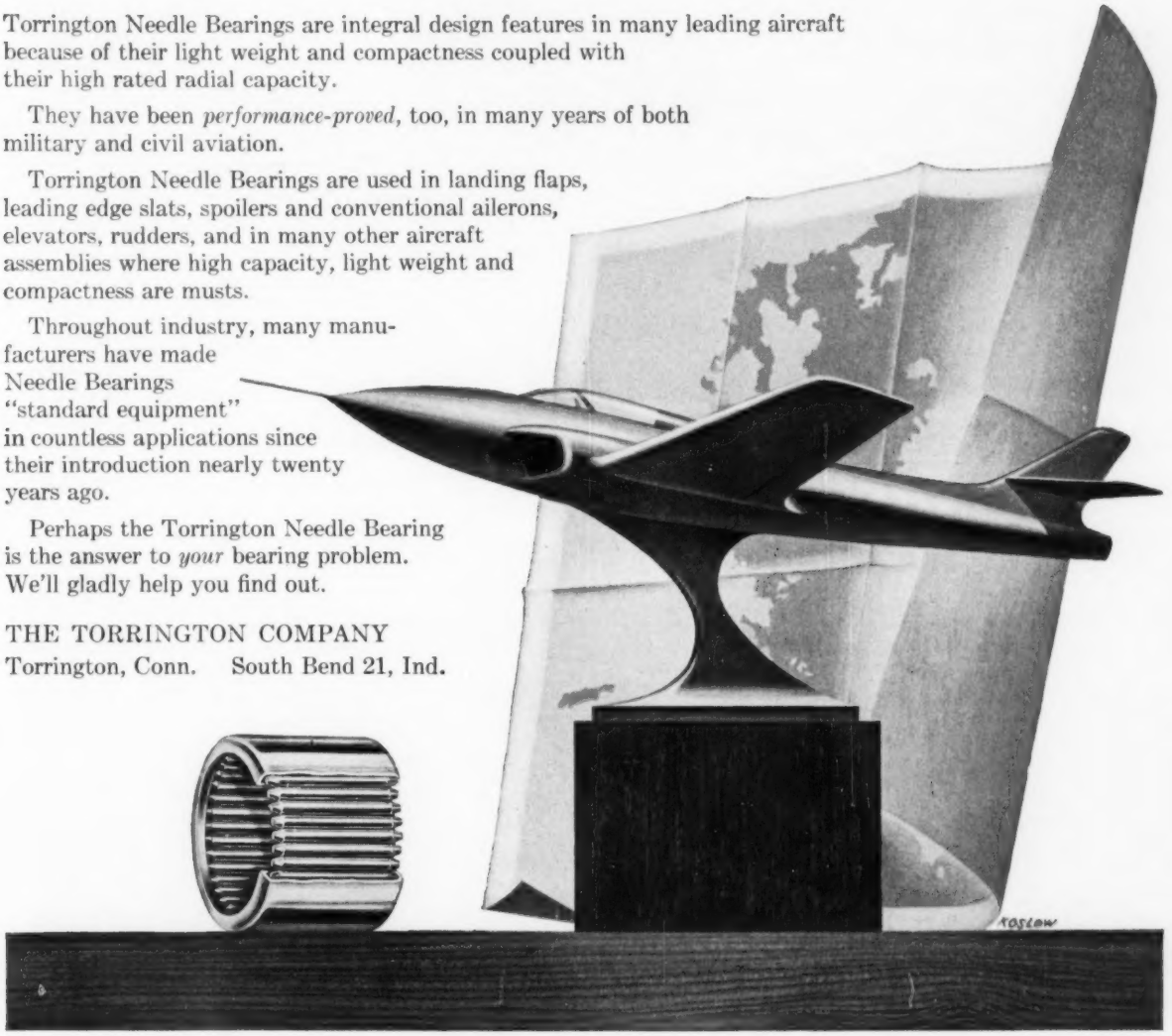
They have been *performance-proved,* too, in many years of both military and civil aviation.

Torrington Needle Bearings are used in landing flaps, leading edge slats, spoilers and conventional ailerons, elevators, rudders, and in many other aircraft assemblies where high capacity, light weight and compactness are musts.

Throughout industry, many manufacturers have made Needle Bearings "standard equipment" in countless applications since their introduction nearly twenty years ago.

Perhaps the Torrington Needle Bearing is the answer to *your* bearing problem. We'll gladly help you find out.

THE TORRINGTON COMPANY
Torrington, Conn. South Bend 21, Ind.




**TORRINGTON** *NEEDLE* **BEARINGS**

Needle • Spherical Roller • Tapered Roller • Straight Roller • Ball • Needle Rollers

*Trade-marks of leading aircraft companies whose products enjoy the benefits of Needle Bearings.*

LOCKHEED · Grumman · NORTHROP · CONVAIR · BOEING · CRAIG SYSTEMS · N A A · Cessna · Beechcraft · FAIRCHILD · REPUBLIC AVIATION · DOUGLAS

...but TENNANT
DRY-CLEANING
makes the difference!

What a contrast! An old, oil-soaked floor made 533% brighter . . . safer than before . . . and given a smooth, hard surface that resists dirt penetration —*all because it's dry-cleaned the* TENNANT *way.*

**Gives you BRIGHTER, SAFER FLOORS . . . AT LESS COST**

Are there dark, slippery floors in your mill due to prolonged wet-scrubbing? Then check these advantages of the TENNANT System:

**RECONDITIONS your floors.** Fast, easy-to-use Tennant machine brings your floors to life again! Gets rid of dark, rough, oil-soaked fibers . . . leaves floor bright.

**HARDENS surface to resist wear.** Special sealing process fills, binds and hardens wood fibers. Makes your floor resist dirt penetration . . . prolongs floor life.

**DRY CLEANS, eliminates scrubbing.** A fast, one-man job . . . with no mess or bother. Keeps floor lustrous, DRY, non-slippery. Enthusiastically approved by hundreds of mills.

**WRITE TODAY for full information.**

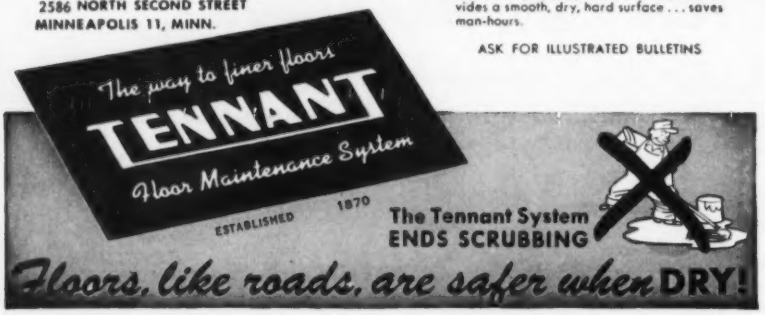
**G. H. TENNANT CO.**
2586 NORTH SECOND STREET
MINNEAPOLIS 11, MINN.

**TENNANT**
**INDUSTRIAL FLOOR MACHINE**

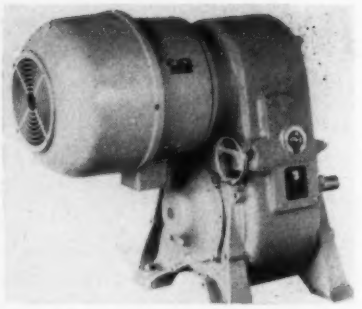
- Cleans floors, picks up soilage.
- Complete accessories for ALL your floor maintenance work.

Tennant Floor Machines have 12" or 16" revolving steel wool roll (or other accessory) that smoothly removes dirt and traffic stains. Very speedy and easy to use. Provides a smooth, dry, hard surface . . . saves man-hours.

ASK FOR ILLUSTRATED BULLETINS







**"SPEED-TROL" electric power drive shown above is 25 hp. with a 4-to-1 speed variation. Air inside the motor is continuously circulated and cool air forced in.**

able in totally enclosed fan-cooled models from Sterling Electric Motors, Inc., 5401 Anaheim-Telegraph Rd., Los Angeles 22, Calif. A dual cooling system provides highly efficient internal and external cooling.

Air inside the motor is circulated by the large-diameter internal cooling fan through unobstructed air passages between the motor housing and stator, over the motor windings, and through openings in the rotor. Thus circulating air is kept in continuous contact with the motor housing.

Maximum cooling is accomplished in that heat from every part of the motor is transferred by the triple action of convection, conduction, and radiation to the outside of the motor. There, any heat generated is rapidly carried off by a continuous flow of cooling air forced over the motor housing by the external fan and removable grilled fan cover.

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## New Narrow-Fabric Loom

(*Continued from page* 111)

woven fabric, a jacquard attachment for fancy weaves, and a special tension attachment for weaving elastic tapes are also to be available with the loom.

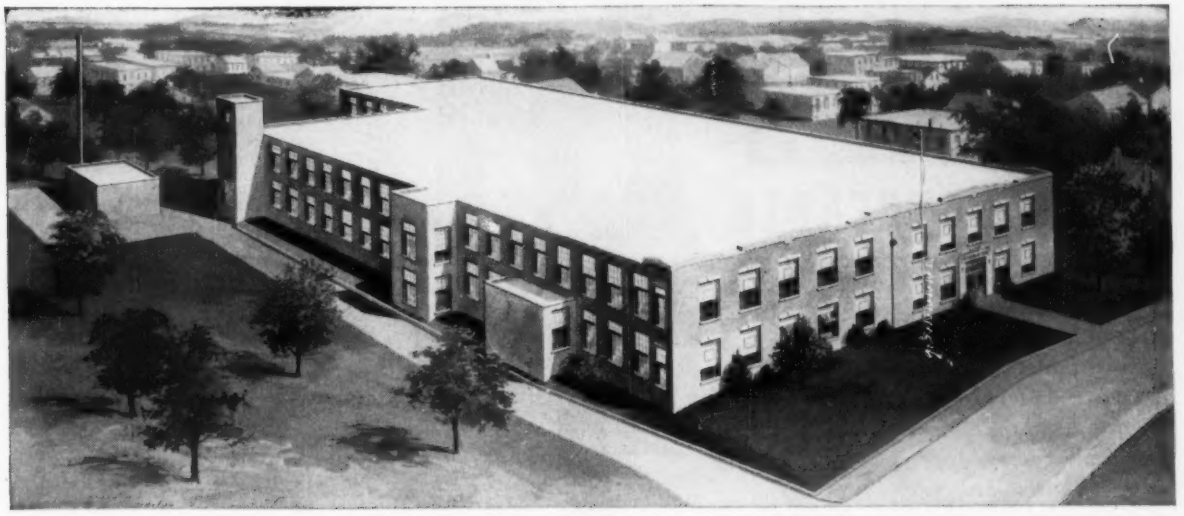
### Patent Position

The Disco loom is the joint invention of three men associated in Disco Industries, Inc., manufacturers and assigners of slide-fastener processes and equipment: David Silberman, president; Robert Dellaquila, treasurer; and Gustav Ulrich, loom specialist. A U. S. patent for the loom was applied for a year ago.

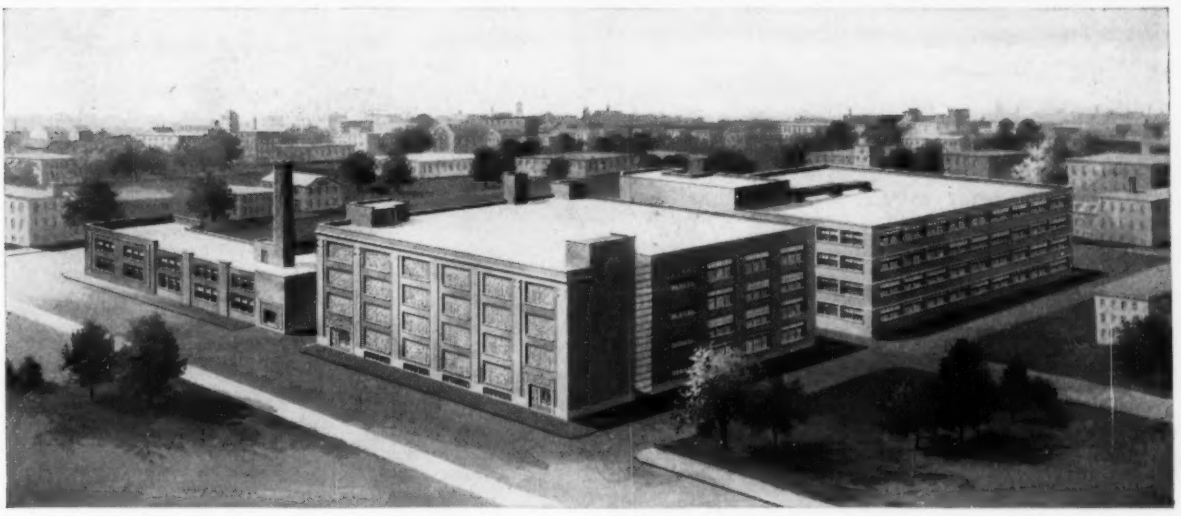
The loom will be sold in Britain for zipper-tape use by Imperial Chemical Industries Ltd. and for all other ribbons and tapes in England by

# AND NOW... IN CONCORD, N. C.,

## A NEW OSCAR HEINEMAN PLANT...



**...which, added to the facilities and production of our Chicago plant...**



... MEANS that Oscar Heineman's service in producing the finest-quality hosiery and tricot knitting yarns and filling every throwing need in synthetic and combination fibers will be better than ever.

With understandable pride, we're telling the industry about our new Concord plant, partly because it represents a significant expansion for us but principally because for expert, economical production, it has everything. It is completely air conditioned, has the latest throwing equipment and is strategically well located. It has everything it takes to give you quality, speed and efficiency.

**OSCAR HEINEMAN CORPORATION**

*Division of Aetna Industrial Corporation*

**DONALD G. BREWSTER,** ***President and General Manager***

*Processors of Nylon, Orlon, Dacron, Silk, Rayon and Other Synthetic Fibers*

**2701 ARMITAGE AVENUE, CHICAGO 47, ILLINOIS**

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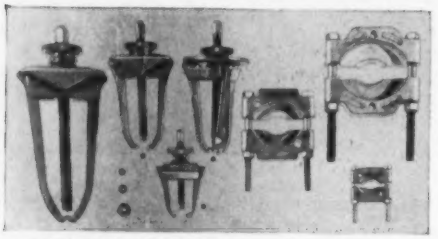
handle ALL pulling jobs
swiftly . . . easily . . . with
Snap-on*
INTERCHANGEABLE
PULLER TOOLS

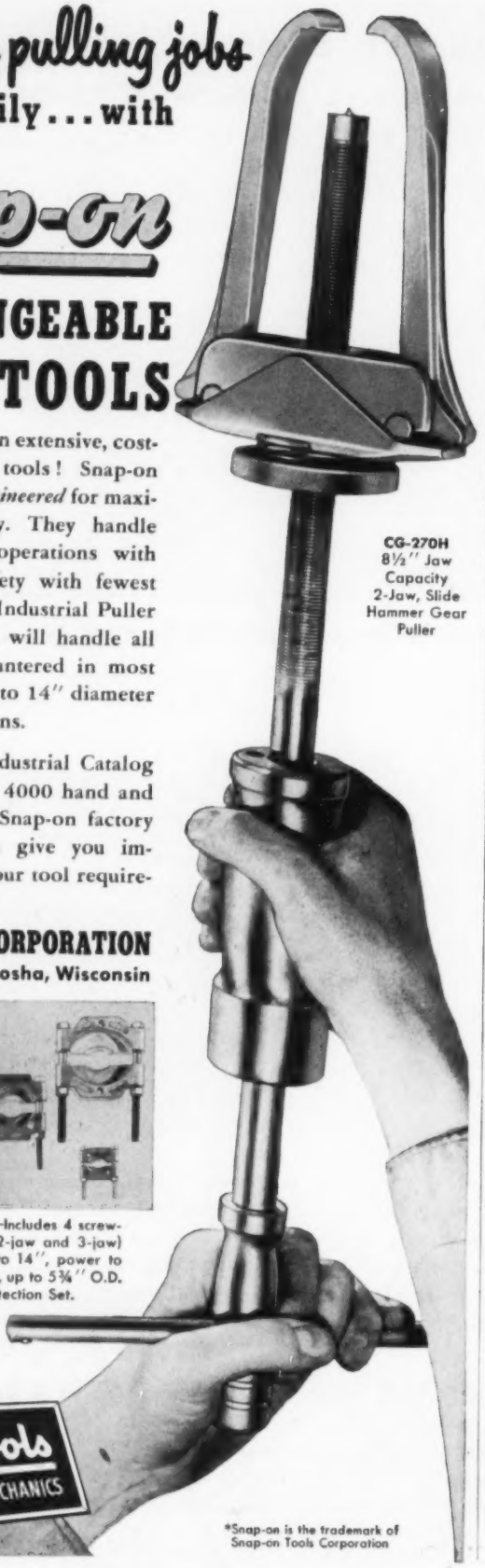
NO NEED to invest in an extensive, costly assortment of puller tools! Snap-on pullers and parts are *engineered* for maximum interchangeability. They handle the widest range of operations with greatest speed and safety with fewest units, lowest cost. The Industrial Puller Set illustrated, CG-608, will handle all puller operations encountered in most shops—size capacity up to 14" diameter with power up to 20 tons.

Write for Snap-on Industrial Catalog and General Catalog of 4000 hand and bench tools. A nearby Snap-on factory warehouse is ready to give you immediate service on all your tool requirements.

SNAP-ON TOOLS CORPORATION
8100-A 28th Ave. • Kenosha, Wisconsin



CG-608 Industrial Puller Set—Includes 4 screw-type pullers—small, medium (2-jaw and 3-jaw) and large. Size capacity up to 14", power to 20 tons. 3 Bearing Separators, up to 5¾" O.D. capacity, and Screw Point Protection Set.



CG-270H
8½" Jaw
Capacity
2-Jaw, Slide
Hammer Gear
Puller

Snap-on Tools
THE CHOICE OF BETTER MECHANICS

*Snap-on is the trademark of Snap-on Tools Corporation

Linen Thread Co., a subsidiary of E. D. Hamel & Son Ltd.

A battery of 50 of the new looms is to be ready for demonstration purposes in New York by the end of this month.

## Georgia TOE

(*Continued from page 109*)

kept the same as it was with boiled size.

Most mills report that homogenized size can be kept at least 24 hr., but one mill doesn't like to keep size over 3 hr. All the mills agitate the size during the holding period, and holding procedures vary from 24 rpm. at 185° F. to 20 rpm. at 210° F.

### Preparing Thin-Boiling Starches

Four of the 12 mills that reported on the cooking time for thin-boiling starches cook the starch for 1½ hr. Most of the cooking methods are similar:

Mill A reports—"We agitate our starch for 10 min. while it is still cold. The starch is brought to a boil in 20 min. and cooked for 1½ hr.

"The agitators run at 52 rpm. in the cooking kettles and at 40 rpm. in the storage kettles."

Mill B—"We bring the size to a boil in 30 min. and boil for 1 hr. The size formula is composed of 40 lb. of starch, 5 lb. of softener. Water is added so that the size finishes at 150 gal.

"The agitator speed is 56 rpm. at the cooking kettle and 22 rpm. at the storage kettle."

Mill C—"We cook the starch 1 hr. and 20 min. and have cooked it 1 hr. with satisfactory results.

"Cooking kettles are agitated at 35 rpm. and storage kettles at 20 rpm."

### Formulas Determine the Pickup

Five mills of the nine who answered the question of how to obtain uniform size pickup think that size formulas determine the uniformity of the sized warp.

Mill A—"We change the amount of starch in our formula."

Mill B—"With a properly balanced size formula, we find that the percentage of size pickup will be approximately the same on a wide range of numbers and ends per set."

Mill C—"On sets of 3,000 ends or less, we use 4 yd. of blanket cloth. On sets of over 4,000 ends, we use 8 yd. of blanket cloth."

Mill D—"To obtain a uniform size pickup, keep the size at a constant level in the size box. With the size

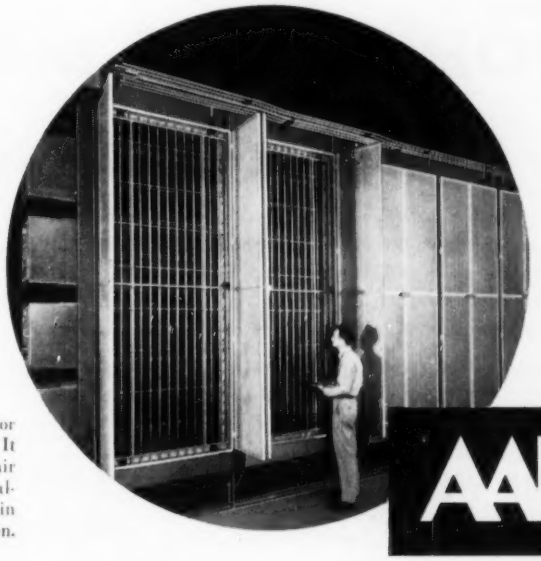
*Clean Air* **MAKES THESE MORE BEAUTIFUL**

The country's largest hosiery manufacturers use AAF ELECTRO-MATIC precipitators to positively eliminate airborne dust and smoke in the precision manufacture of full-fashion hosiery.

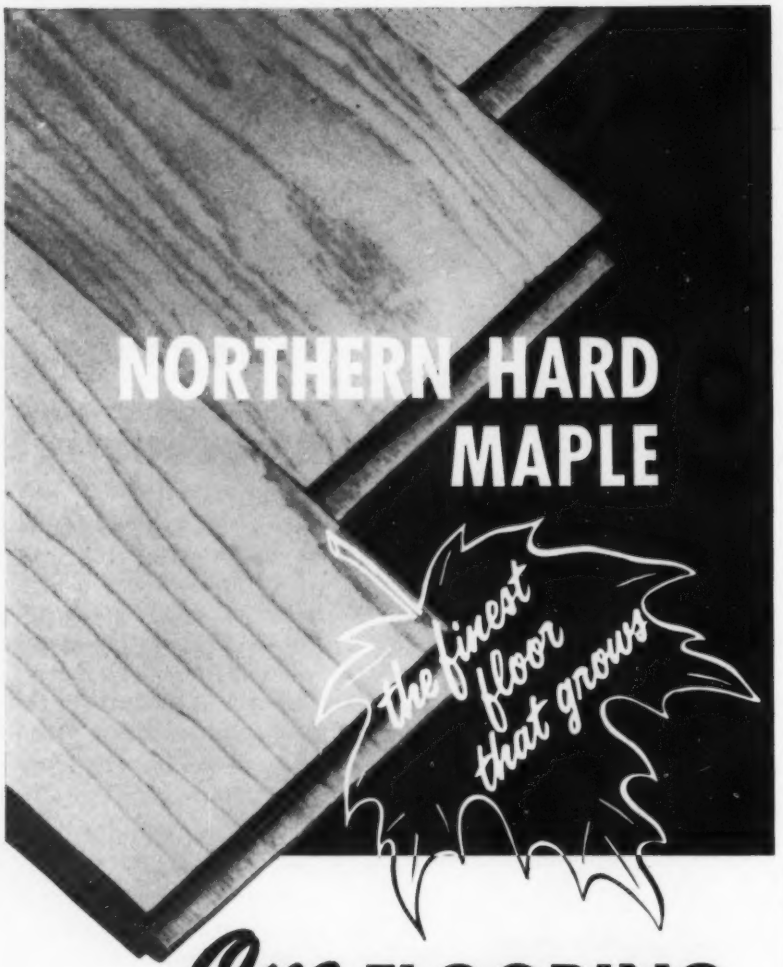
The finished products are more perfect. The number of rejects is cut to a minimum. And the delicate automatic knitting machinery is protected against costly breakdown and unnecessary wear.

**American Air Filter**
COMPANY, INC.

304 Central Avenue, Louisville 8, Kentucky
American Air Filter of Canada, Ltd., Montreal, P. Q.




The ELECTRO-MATIC precipitator even removes smoke from the air. It assures a positive, constant clean air volume and cuts maintenance to almost zero. Please write for Bulletin No. 250 for additional information.




One FLOORING
IS proved RIGHT
FOR TEXTILE MILLS
and this is it!

And this is *why:* Northern Hard Maple is *resilient*. It is bright and smooth and tight. It is warm and dry and doesn't splinter. Simple brushing cleans it. It's easily re-surfaced. It's hard to dent or scuff. It creates no dust, catches no lint. *Everybody* likes to walk on it, stand on it, *work* on it. *See Sweet's* Arch.12K/MAfor data, or write:

**MAPLE FLOORING MANUFACTURERS ASSOCIATION**
Suite 592, Pure Oil Building, 35 E. Wacker Drive
CHICAGO 1, ILLINOIS

FLOOR WITH NORTHERN HARD MAPLE
BEECH AND BIRCH

level constant and with the slasher speed constant, the immersion time is uniform throughout the slashing operation.

"The temperature of the size box must also be accurately controlled if size pickup is to be uniform."

Mill E—"Our size formula is set up to use 15 oz. of sizing material per gallon of finished size. Our pickup with this formula is 11% on all styles of warps. The variation is never more than 3%."

### Three Pumps That Require Little Maintenance

Eleven mills discussed slasher pumps, and three mills spend less time in maintenance than the others:

Mill A—"The low-speed rotary-type pump does the best job for us. The high-speed gear pumps seem to break down the size mixture and reduce the velocity. The low-speed pump results in little physical action on the size and leaves it in good condition."

Mill B—"We have had satisfactory results with an all-brass centrifugal pump equipped with a stainless-steel shaft. The pump has no inside bearings.

"The only maintenance that we have done during the six years of pump operation has been to repack the shaft."

Mill C—"Our pump is equipped with ball bearings and requires little maintenance other than a weekly greasing.

"We clean the pump on week ends, and we clean our homogenizer pump daily."

### To Be Safe— Run Lease Strings Each Warp

Four mills that answered the question of how frequently they run lease strings in warps say that they lease every warp. Other mills do not lease the warp this frequently unless they run into trouble.

Mill A—"On a set with 5,000 to 6,000 ends, we run lease strings on each warp. A sample of our type of warp is 16s yarn, 5,570 ends, 12 section beams, 13,000 yd. per section beam, and 855 yd. per loom beam."

Mill B—"We run lease strings every other warp on high end counts on 6s to 34s yarns. We usually run 10 to 22 section beams on the creel. The yards per loom beam run from 1,000 to 4,500. Warps that have less than 4,000 ends are leased every fourth warp.

"If a number of ends are broken out during the running of a warp, we run a lease string to straighten out the ends.

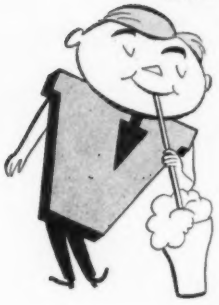
"In calculating the number of yards to be run per section beam, we multi-


For more information, write direct or use Reader Service post card.

# When COMFORT counts... remember Vicara®

ZEIN FIBER

A lot of people these days are just plain *uncomfortable* in some of their clothes. *Socks make their feet feel clammy. Shirts are too hot or too cold. So are suits and dresses.*



But none of these unpleasant things happens—*if there's enough Vicara in the blend!* *Vicara* absorbs moisture . . . *Vicara* exceeds all other new man-made fibers in moisture regain and water retention . . . *Vicara* soaks up perspiration.

*Any way you say it, Vicara means comfort.*

And because *Vicara* can absorb large quantities of moisture, it is an anti-static fiber. *Vicara* actually dissipates static. Gets rid of it.

The moisture absorbency of *Vicara*—plus its anti-static quality—are important extras. But that's only the beginning. There's the soft, comfortable feel of this new luxury fiber . . . non-irritating, non-scratching, gentle to the most sensitive skin. There's its lightweight warmth . . . enduring wear . . . high resistance to pilling, moths and mildew.

*Watch your customers welcome Vicara in hosiery, knit goods, suits, dresses, sports clothes, upholstery fabrics, blankets and knitting yarns.*

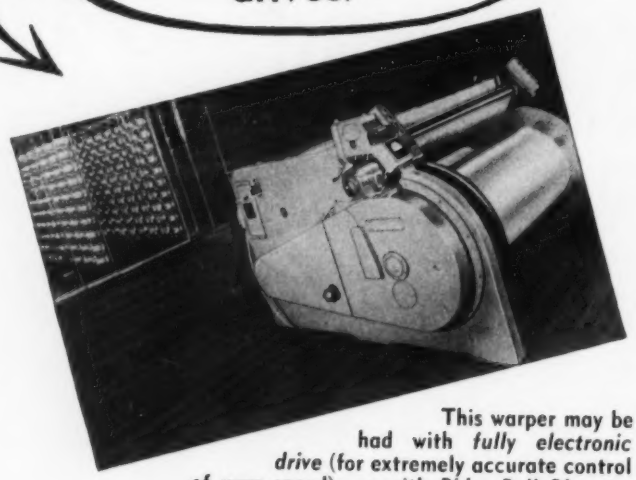
Vicara®

THE FIBER THAT IMPROVES THE BLEND

UNIFORMITY • BEAUTY • VERSATILITY • ECONOMY • EASE IN USE • SPINNABILITY
DYE-ABILITY • WARMTH • HANDLE, FEEL AND DRAPE • ELASTICITY • RESILIENCE
ABSORBENCY • HEAT RESISTANCE • WASHABILITY • NON-FELTING • NON-ITCHING
NO ODOR • NO KNOWN ALLERGIES • MOTH RESISTANCE • MILDEW RESISTANCE

Fiber Division • Virginia-Carolina Chemical Corporation
Richmond 8, Va. • 500 Fifth Avenue, New York 36, N.Y.

High Speed
SIPP-EASTWOOD
WARPER Now
Available with choice of drives.



This warper may be had with *fully electronic drive* (for extremely accurate control of yarn speed)—or with *Rider Roll Rheostat type drive.*

The High-Speed Sipp-Eastwood Warper with its choice of drives, sturdy, extra-heavy construction, smooth application of power, spindle-driven beam, and dependable V-belt drive makes for more efficient operation. Its speed is only governed by the yarn.

**OUTSTANDING FEATURES:**

1. *Spindle driven beam builds up to 36" in diameter, 54¼" wide, or wider.*
2. *Electrically operated hydraulic brakes, automatically adjusted to beam load.*
3. *Variable finger-tip speed control, effective to as close as 1%.*
4. *Hydraulic beam doffing.*
5. *AC current only required.*

Ask for all the facts about this efficient warper.

ITS A SIPP EASTWOOD

SIPP-EASTWOOD CORPORATION
47 Keen Street Paterson, New Jersey

DOMESTIC AGENTS:

S. FRED TOLL
2116 W. Morehead Street
Charlotte 1, N. C.

J. S FALLOW & CO.
New Bedford,
Mass.

J. S. FALLOW & CO.
4846 Sherbrooke St. West
Montreal, Canada


ply the yarn number by 900. Two section beams are made from one cheese of yarn."

Mill C—"We run lease strings in every yarn beam. Our average slasher setup is 14s yarn, 5,300 ends in a warp, 12 section beams, 13,000 yd. per section beam, and 1,000 yd. per loom beam."

### Separate Ends at the Comb Prevent Rolled Selvages

"Keep beam (section and loom) journals straight and separate the selvage ends at the comb to prevent rolled selvages" is the unanimous opinion of Georgia mill men who reported on this question.

Mill A—"We use a split roll back of the size box to eliminate rolled selvages. We make selvages of 18 ends of 14/2. Other selvages are 24 to 40 ends of 12s to 19s.

Mill B—"We run selvage ends one to a dent through a small comb back of the expansion comb on selvages of 10 ends, ply yarns. We keep the lease bars slick, the contact rolls are kept smooth, the beam journals are kept true, and we run the selvages a short distance away from the loom-beam head to prevent piling up."

Mill C—"We spread the selvages out over the drying cylinders and run the selvage ends through drop wires before they are run through the comb. We also place a few ends through the dents of the comb."

Mill D—"We produce as good a section beam as we possibly can. We try to keep out crossed ends, and we do not allow the yarn to build up next to the heads of the section beams. The section beams are kept in good mechanical condition all the time.

"The slasher creel is kept in line with the slasher. The lease rods are spread to hold the yarn open until it hits the comb. We inspect and keep a good cover on the delivery roll.

"Our selvages are of 4 to 40 ends of single and plied yarns."

---

## Alabama TOE

(*Continued from page 137*)

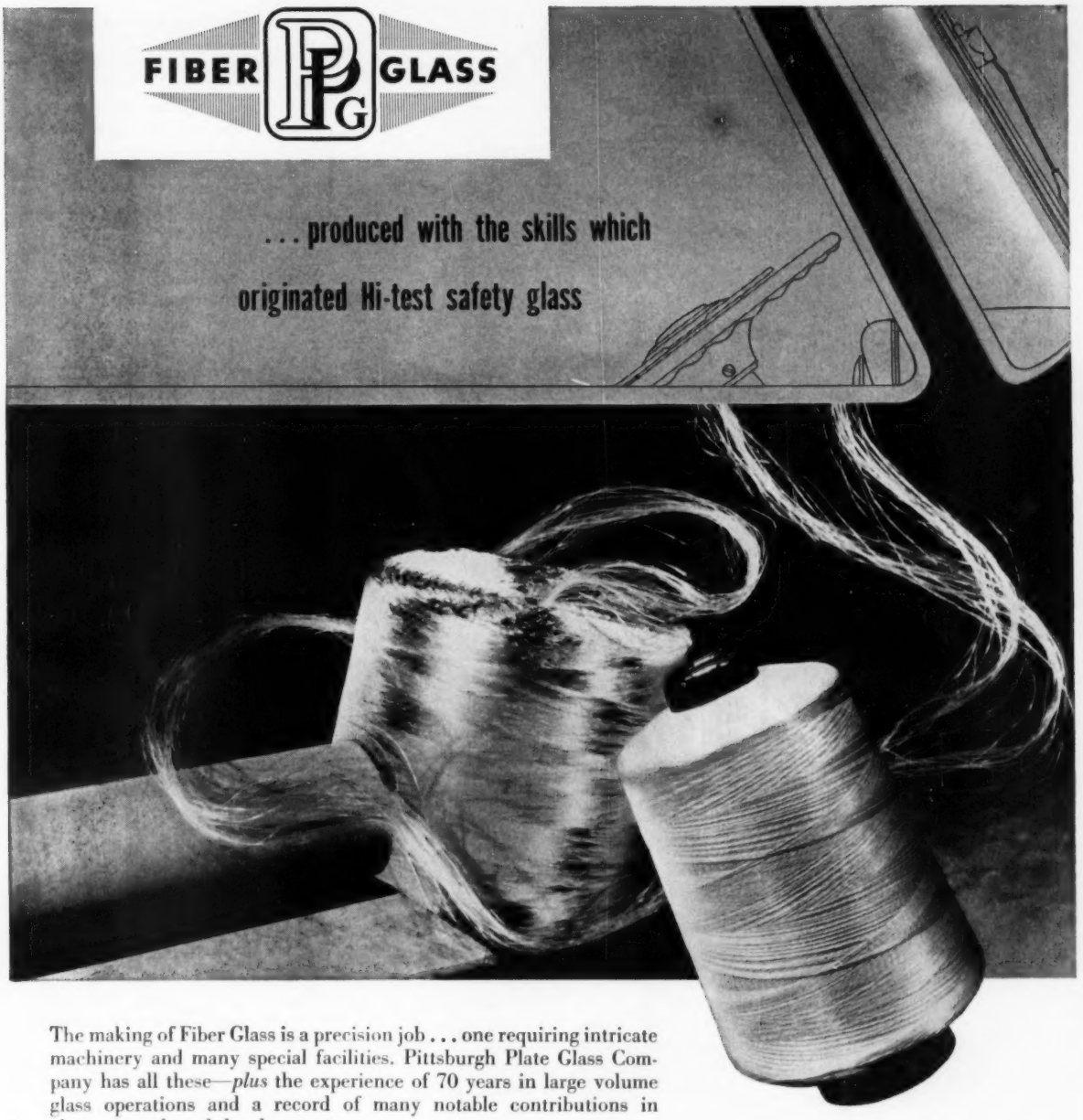
4. Drain the air lines twice a week in the summer
5. Clean the inside of the ducts each year
6. Clean the atomizers once a year

"To clean central stations:

1. Check the operation daily
2. Clean the recirculation screen (1-in. screen) daily
3. Blow off the louvers and mo-

FIBER PPG GLASS

# . . . produced with the skills which originated Hi-test safety glass



The making of Fiber Glass is a precision job . . . one requiring intricate machinery and many special facilities. Pittsburgh Plate Glass Company has all these—*plus* the experience of 70 years in large volume glass operations and a record of many notable contributions in glass research and development.

Today, for example, Pittsburgh's Hi-Test Safety Glass is the standard in many automobiles—the result of exhaustive research which originated the lamination of glass with an interlayer of vinyl plastic and devised methods which made volume production practicable.

Now these skills are backing up the production of Fiber Glass, assuring both excellence of product and the efficient handling of users' requirements. If Fiber Glass is used in your products—either Superfine Insulation or Yarns, Strands or Roving—investigate the advantages which can be obtained by specifying *"Pittsburgh"*—PPG Fiber Glass. Pittsburgh Plate Glass Company, Fiber Glass Division, 632 Duquesne Way, Pittsburgh 22, Pa.

## engineering service available

Opportunities for improving products or production methods involving the use of PPG Fiber Glass are so great that our field engineers may be able to contribute information of value to you. Arrangements for this service, or for obtaining data on PPG Fiber Glass, may be made through our executive offices in Pittsburgh, or our district sales offices in Detroit, New York, Cleveland, Chicago, Cincinnati and Washington.

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PITTSBURGH PLATE GLASS COMPANY

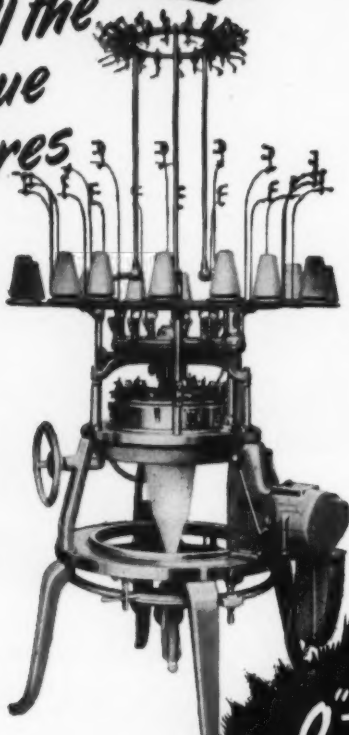
The New

Mellor—MBI—Bromley

INTERLOCK

Multifeeder and stripe or check pattern machines

with all the unique features



9"-30" DIAMETERS

20-24 CUTS

★

**Send for full details, to the builders of more than 7000 Interlock machines operating successfully in almost every country in the world.**

MELLOR BROMLEY & CO. LTD

LEICESTER · ENGLAND


tors inside the apparatus room each day

4. Wash and clean the blowers each day

5. Check all the atomizers daily to see that they are operating correctly

6. Clean the control screens each day

7. Wash and clean the baffle plates each day

8. Drain, wash, and clean the washers each week

9. Clean the inside of controls each week

10. Clean the grills every 2 wk.

11. Clean the inside of the ducts each year.

"To clean ductless air changers:

1. Check the operation of the system once a day

2. Drain the air lines twice a day

3. Blow out the window units every second day

4. Clean the exhaust louvers every second day

5. Clean the inside of the controls each week."

2. How do you grease motors with ball bearings?

Mill A—"One man is responsible for checking and lubricatng all motor bearings. He uses a hand grease gun to grease the bearings. This setup has been satisfactory over a 10-yr. period in which we've serviced over 10,000 motors."

Mill B—"Ball bearings are checked and greased every 3 mo. We use a hand gun to apply the grease."

Mill C—"We grease our motors every 3 mo. except on high-temperature bearings, which are greased every 2 wk. We use a battery-driven gun and an air-operated pressure gun."

Mill D—"We grease bearings in our motors every 6 mo. with a pressure grease gun."

Four of the mills grease motor bearings every 3 mo., three every 6 mo., and others at different times.

### Supply Question

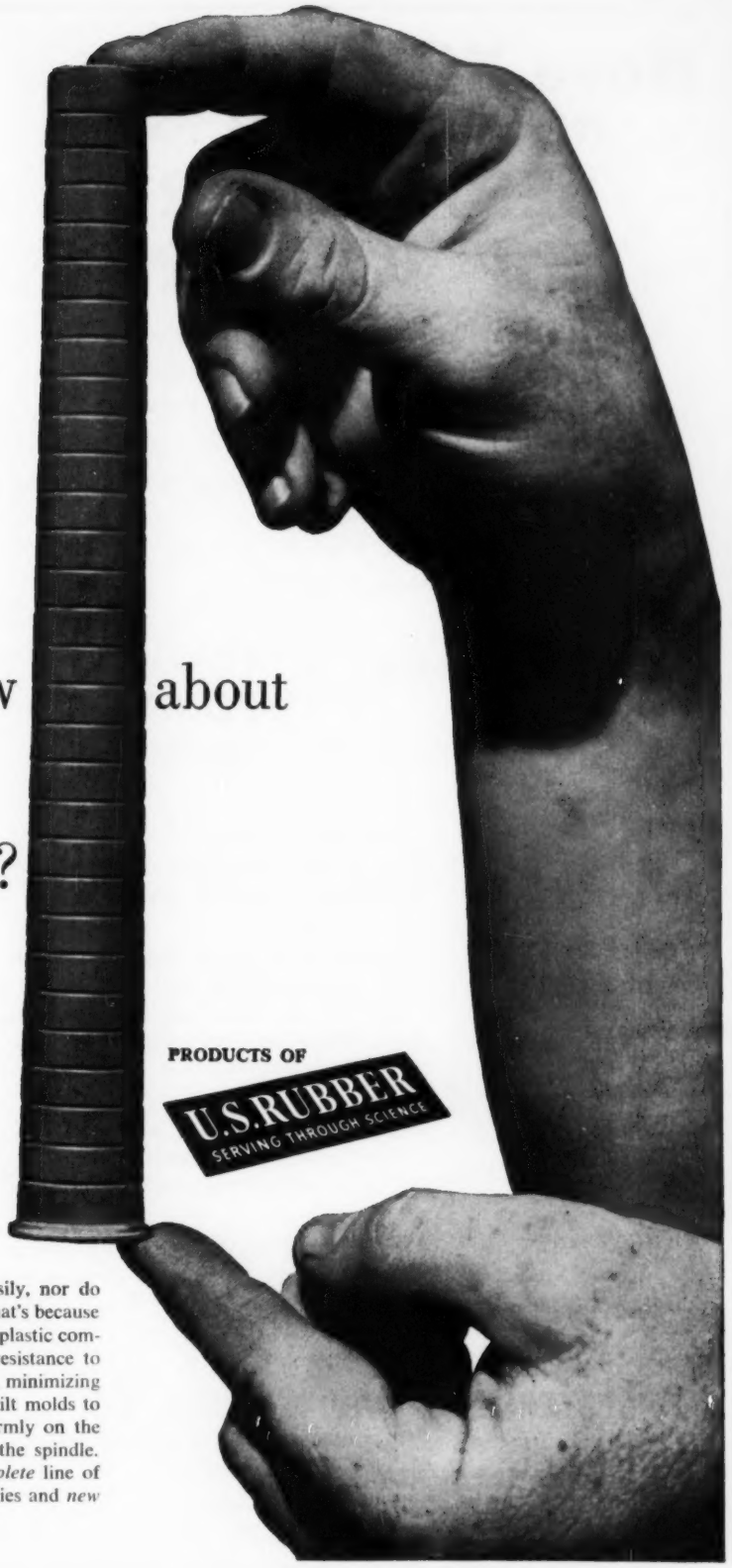
**I. What is the best system for running a supply room efficiently?**

Mill A—"Our supply clerk is responsible for ordering all replacement parts that are kept in stock. We use one of the systems that requires cards to show the minimum and maximum inventory. The supply clerk reorders parts when the cards show that the minimum level has been reached.

"All purchase requisitions for special items (not stocked) are signed by the overseer of the department that will use the material."

Mills B, C, D, E, and F use virtually the same system.

Mill G—"The head supply man is




# What's new about U. S. Rubber's warp tubes?

First, they do not crush easily, nor do they chip, splinter or roughen around the ends. That's because they are made of Uscolite, the sensational rubber-plastic compound. Uscolite warp tubes provide maximum resistance to abuse in a thin-walled tube. They hold yarn well, minimizing sluffing. Because they are molded in precision-built molds to close tolerances, Uscolite warp tubes seat uniformly on the spindles. There is never any working down on the spindle.

United States Rubber Company makes a *complete* line of textile mill specialties, incorporating *new* economies and *new* highs in product quality. Write to address below.

**UNITED STATES RUBBER COMPANY**

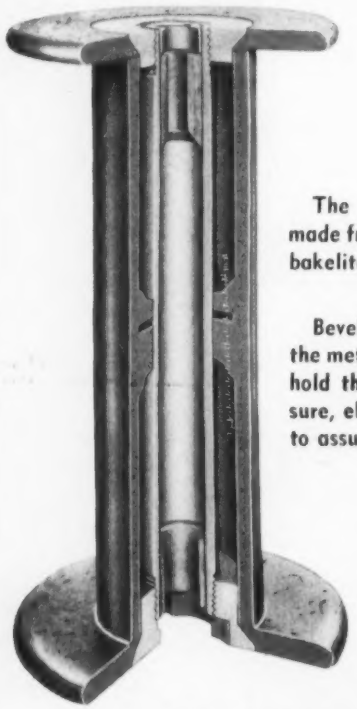
**MECHANICAL GOODS DIVISION · ROCKEFELLER CENTER, NEW YORK 20, N. Y.**



For more information, write direct or use Reader Service post card.

# *Have* YOU *Seen*
## THE SENSATIONAL NEW
# LESTERSHIRE "NB" BOBBIN?

- **It has balance without balancing—**
- **Operates at higher spindle speeds—**
- **Lessens spindle and bolster wear—**
- **Reduces power consumption—**
- **Assures strength to withstand crushing pressures—**
- **Eliminates vibration—**
- **Lowers bobbin investment.**



## FEATURES YOU WILL APPROVE

**The new Lestershire "NB" Bobbin is made from aluminum, Phenolite (laminated bakelite) or hard vulcanized fibre.**

**Beveled aluminum bushings, threaded to the metal central tube and locked in place, hold the heads rigidly against yarn pressure, eliminating screws, and thus helping to assure dynamic balance.**

**The barrel of molded bakelite gives great strength and concentricity for the unit.**

**All parts are made to close tolerances and are interchangeable.**

***Send for full facts and samples.***

## LESTERSHIRE SPOOL & MFG. CO.

**140 Baldwin Street** **Johnson City, N. Y.**

**Division of National Vulcanized Fibre Company**

***Branch Offices and Technical Services:***

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W. H. Hobbs—Room 833, 30 Church St., New York 7, N. Y.
Wm. S. Richards Co.—Clayton, St. Louis 5, Mo.
Odell Mill Supply Co.—Greensboro, N. C.
Greenville Textile Supply Co.—Greenville, S. C.
National Insulation Co.—Chicago 12
National Vulcanized Fibre Co.—Detroit
National Vulcanized Fibre Co.—Cleveland


responsible for ordering replacement parts; however, the overseers order certain items.

"We keep a minimum amount of parts in stock. When our stock reaches the minimum, we order just enough supplies to bring our stock to our maximum figure.

"To control our stock, we use a red- and white-card system on each bin. A red card is placed on a bin when materials are on order. When the supplies are received, the red card is replaced with a white one."

Mill H—"We keep a perpetual inventory of our supply room. The supply stock is based on a 30-day minimum and a 90-day maximum."

**2. What is the best method for handling oils, greases, and empty drums?**

Mill A—"Oils and greases are kept in a locked storage room. Oils are issued to the department in full drums, and we require that an empty drum be returned to the storage room when a full one is issued.

"Grease is issued 20 lb. or less at a time. Drums are handled on special (curved back) hand trucks.

"Empty drums are returned to the oil distributors once a month."

Mill B—"We store oil and grease drums in tiered racks located a safe distance from buildings. We place the drums in the racks with a chain hoist on an overhead rail.

"We have made special equipment to oil our line shafts efficiently. A 30-gal. shop-made pressure tank is fitted to a ladder that is pushed along the line shaft. The oiler can see when bearings are full and avoid overrunning them.

"Empty drums are returned to the oil racks and placed in separate compartments. The oil supplier picks up empty drums and leaves full ones."

Mill C—"Each department in the mill lubricates its own machines. Oils and greases are stored in a separate building."

Mill D—"We are building a covered oil and grease platform, which will be equipped with racks.

"The oils and greases will be unloaded from oil supplier's trucks directly onto the racks. The delivery trucks will also pick up empty drums, which will be stored under the oil-rack platform. An electric hoist will be used to load and unload the drums."


**Invest In**
**U.S. DEFENSE BONDS**
**Now Even Better**

# IT'S A BIG ORDER

## ...and we're grateful

**Thanks to you, we've just completed a wonderful, successful year, our sixtieth. Naturally, we're proud of this proof that Hyatt Roller Bearings have earned the confidence of so many leading manufacturers of all kinds of equipment. In the year ahead we will have the advantage of enlarged plants and new, additional facilities to help us fill the continually expanding demand for Hyatt quality bearings. We're grateful for your valued business of the past year and will be looking forward to serving you again in 1953 along with many new Hyatt users. Hyatt Bearings Division, General Motors Corporation, Harrison, New Jersey, Chicago, Detroit, Pittsburgh, Oakland, California.**

**HYATT**

**ROLLER BEARINGS**



For more information, write direct or use Reader Service post card.

How to care for

Touchy Textiles

HYDRO-SHEAVE Drive

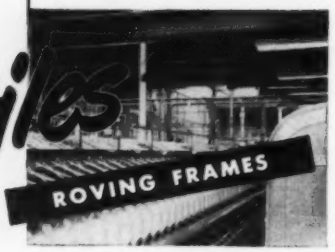
Today, in thousands of touchy textile industry applications, Twin Disc Hydraulic Drives are providing the smoother, cushioned power flow that permits vastly increased production efficiency. From fragile wisps of fiber to finished products—gentle mechanical handling is vital to volume, quality production.

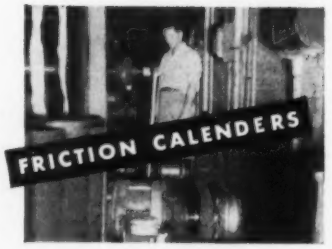
The elimination of hard, solid connections between motors and driven equipment means that loads are picked up softly, smoothly, preventing downtime—producing higher quality—prolonging the useful life of valuable machinery.

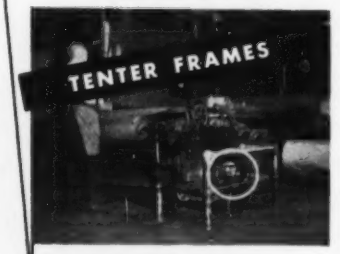
Twin Disc Hydraulic Drives are easing damaging power shocks in the *five* operations shown at left and in many other textile applications, including:

Embossing Padders • Twisters • Breaker Cards • Finisher Cards • Rubber Covering Machines • Braided Covering Machines • Winding Machines • Reversing Aprons • Re-Winds • Conveyors • Extruder Tightening Devices • Stoker Feeders.

**For Bulletins—Twin Disc Hydraulic Couplings (Bulletin 144-C), HYDRO-SHEAVE® Drives (Bulletin 145-B), and HYDRO-WYND® Drives (Bulletin 163) —and data sheets describing many textile applications, call your nearest Twin Disc Hydraulic Dealer, or write . . .**








TWIN DISC
CLUTCHES AND HYDRAULIC DRIVES

TWIN DISC CLUTCH COMPANY, Racine, Wisconsin • HYDRAULIC DIVISION, Rockford, Illinois

BRANCHES: CLEVELAND • DALLAS • DETROIT • LOS ANGELES • NEWARK • NEW ORLEANS • SEATTLE • TULSA


## Synchronous Motors

(*Continued from page 131*)

chronous motor to improve power factor is a function of load and excitation. Decreasing the mechanical load without changing the field excitation increases the reactive-kva. output of the motor. Operating a synchronous motor at part load to gain a greater power-factor improvement is seldom economical, and the motor should never be overexcited for this purpose since this practice can lead to serious overheating.

Under conditions of high voltage, the reactive kva. furnished by a synchronous motor decreases, and under conditions of low voltage, within reasonable limits, it increases. The motor, therefore, has a tendency to hold a constant voltage in the power supply.

Synchronous motors usually have a higher full-load efficiency than any other type of motor and produce a greater amount of work per dollar's worth of power consumed. Where loads are heavy and continuous, an advantage of from 0.5 to 3.0% in efficiency saves a considerable sum in operating expense and leaves more power available for other plant equipment. At reduced loads, the difference becomes markedly greater. An efficiency of 75% at 5% load has been attained in a synchronous motor.

Whether or not a synchronous motor should be installed for power-factor correction depends upon several factors. A careful study might reveal that the particular plant and application might lend themselves better to induction motors and capacitors under certain conditions. The total cost, total load, present power factor, and amount of desired power-factor improvement all have a bearing on the type of apparatus best suited to improve the power factor. Also, the provisions made for obtaining a high power factor in a brand-new plant are likely to be quite different from those feasible in an existing plant.

### Nine Other Advantages

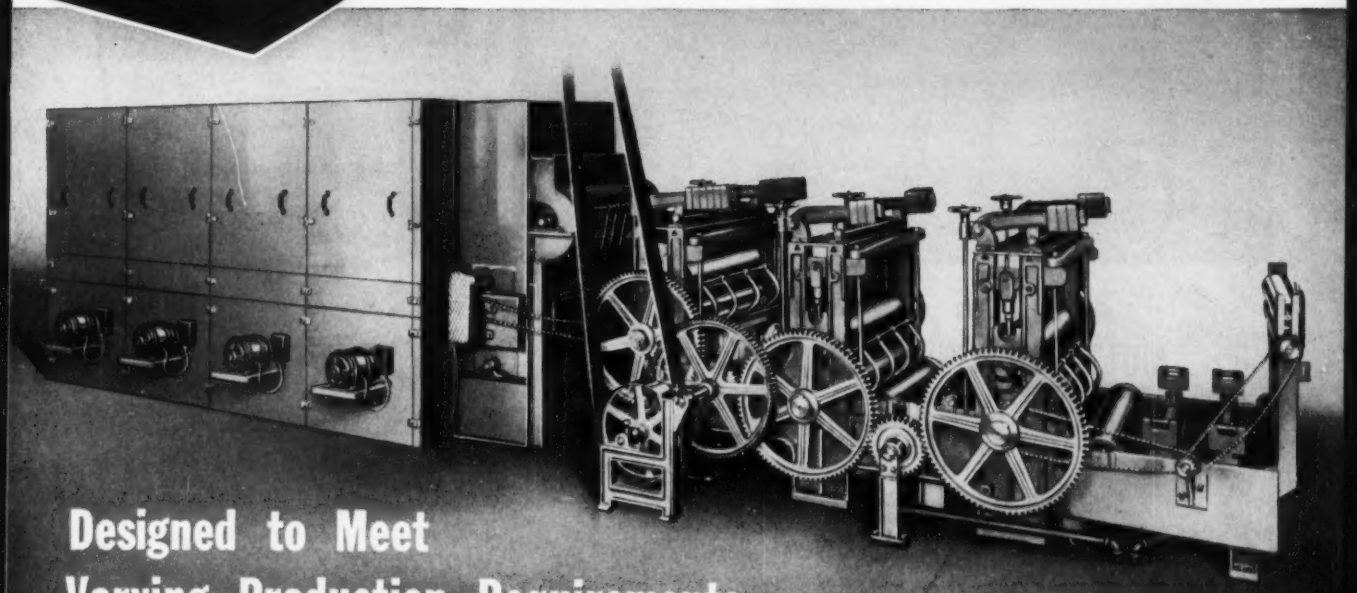
Besides their ability to improve the efficiency of plant power systems, synchronous motors have other desirable characteristics that make them especially suitable for many kinds of large-motor drives. Some of these are:

1. They may be obtained at very low speeds and thus eliminate or reduce the need for speed-reducing gears.

2. The construction of low-speed synchronous motors saves space along

Flexible
Modern
Efficient

# SARGENT'S BACKWASHER and BACKWASH DRYER

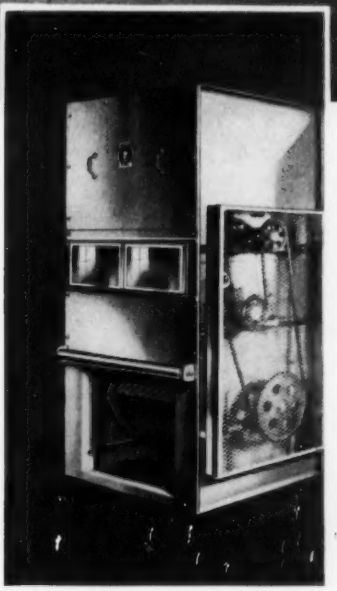


## Designed to Meet Varying Production Requirements

***BACKWASHER***—Available with one to five bowls. 44″ wide bowls give increased liquor capacity. SARGENT'S rearrangement of top squeeze roll levers allows easy accessibility for operator; permits more than double usual number of ends to run through machine. Convenient working space provided by development of pneumatic loading for squeeze rolls, eliminates weights, rods, springs and adjusting wheels.

***BACKWASH DRYER***—Available with 29″ or 44″ aprons. Wire cloth or perforated plate aprons assure softer feel, better color, greater fibre strength. Warm air circulated by motor driven pressure-type fans passes alternately through extended surface heating coils and fibres. From 14 to 60 ends dried at one time. Available in production capacity of 100 to 600 pounds per hour, with 3, 4, 5 or 7 circulating fans.

*Write for Complete Details*



*Conveniently located inspection doors at doffer end.*

SINCE 1852

**LARGEST MANUFACTURERS OF STOCK DRYING AND WOOL WASHING EQUIPMENT IN AMERICA**

**C. G. SARGENT'S SONS CORPORATION**
**Graniteville, Massachusetts, U.S.A.**

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THE WORLD OVER

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This is the modern method by which alert business men throughout the world are satisfying the need for increased storage space without investing a penny in building costs: the Clark method of materials handling.

Clark fork-lift trucks enable you to utilize your "air rights"—by putting idle space near the ceilings to profitable use. They promote orderly efficient warehouse planning—every commodity in its assigned place. Materials move into and out of storage a great deal faster—making it easy to handle a far larger volume of goods. Accidents and damage losses are sharply reduced. Using unit loads composed of multiple items save much time in taking inventory. Actually, storage capacity is usually doubled, in many instances tripled, by carefully planned use of these powerful, fast, safe, efficient machines.

For full information on this more efficient modern method, consult the Clark dealer in your area. You'll find him a competent counselor on all problems of handling materials at lowest cost. Call him today—he's listed under "Trucks—Industrial" in the yellow pages of your phone book.

CLARK ELECTRIC AND GAS POWERED FORK TRUCKS
AND POWERED HAND TRUCKS · INDUSTRIAL TOWING TRACTORS

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☐ New Condensed Catalog ☐ Material Handling News

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City ..... Zone..... State.....

AUTHORIZED CLARK INDUSTRIAL TRUCK PARTS AND SERVICE STATIONS IN STRATEGIC LOCATIONS

1903 1953 CLARK EQUIPMENT

the shaft when the motor is overhung or built into the driven machine.

3. Split-rotor construction is optional in low-speed types, and this feature facilitates assembly on the shaft of the driven machine.

4. Low maintenance costs result from the simple construction that leaves all parts accessible.

5. The first cost is lower, including control and exciter, than any other a.c. motor with its control, in ratings where the hp. is equal to or greater than the speed.

6. The wide range of available torques makes possible starting under heavy loads.

7. Dynamic braking brings heavy loads to a smooth, quick stop.

8. A constant rate of production in constant-speed applications is insured since they run at an exact rated speed that is not affected by voltage change.

9. The large air gap makes field assembly and maintenance easy and economical.

---

## Top Rolls

(*Continued from page 121*)

drafting elements could be called successful.

### Wear Causes Draft Changes

A seemingly perplexing problem that sometimes occurs when a mill starts spinning a new fiber and installs new top-roll coverings on roving frames (and the same thing happens on spinning) is this: Frames will start up and operate perfectly for a few weeks, but after a relatively short time soft, lumpy places will appear on the roll coverings. The soft lumps will not be consistent, will occur only at infrequent intervals, and will not repeat on the same spindles. Because the frames started up perfectly, the mill is usually at a loss to find the trouble because it assumes that the settings of the rolls, the weighting, and the drafts are suited to the staple.

It will generally be found that the rolls are set too close, particularly in the back, or that the back draft is too low. What happens is that the top rolls are new and at this time have their maximum traction to pull the fibers out of the mass of the strand. Any synthetic covering loses a little of its drafting ability, or drafting traction, after it has been run for a period of time. What could have been sufficient roll spread or sufficient back draft then becomes too close a setting or too low a back draft with the lessened traction or fiber-gripping ability of the roll covering.

This condition occurs particularly

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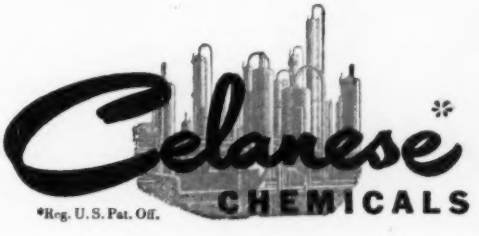
**CELANESE ACETIC ANHYDRIDE SPECIFICATIONS**

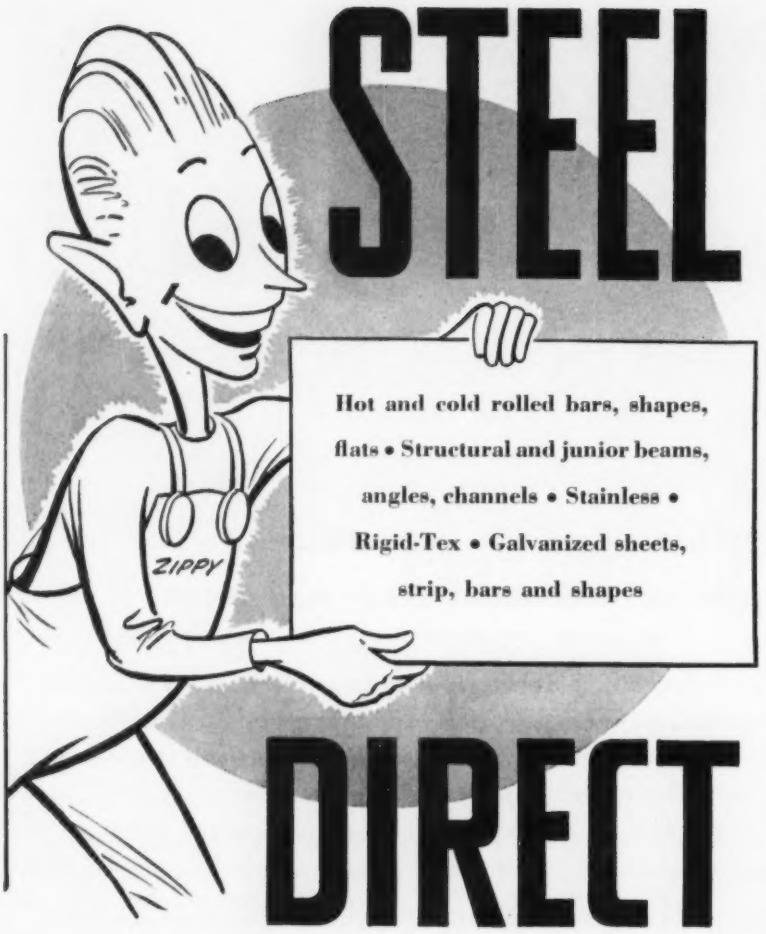
| | |
|---|---|
| Color APHA | 10 |
| Spec. Grav. 20°/20° C. | 1.080-1.085 |
| Acetic Anhydride, Min. % | 97.5 |
| Reducing Test | Pass Permanganate Test |

**ACETYL CHEMICALS by CELANESE**

**ACETIC ACID**
**ACETALDEHYDE**
**ACETIC ANHYDRIDE**




*Reg. U. S. Pat. Off.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when the mill sets rolls by closing up the setting until the fibers begin to cockle and then opening up just wide enough to stop the cockling to give a close setting for greater fiber control. With rolls that grip the fibers very firmly, a lower back draft can be used to pull the fibers from the heavier mass that enters under the back rolls; but as the roll surface becomes smoother, a greater draft is needed to pull the fibers apart.

### Revolving Clearers vs. Flat Clearers

There is no question but that eyebrowing and top clearer waste present the biggest problem concerned with the modern top roll. The importance of solving this problem or of controlling the collection of clearer waste may be seen if you inspect the yarn or finished cloth and note the imperfections from this cause. Slubs, thick places in the yarn, and dirty streaks are all caused by the gathering of small clumps into the yarn during drafting.

Clearer waste will collect on the clearer above any drafting roll and on any type of clearer. The amount of clearer waste will depend upon several factors that should be taken into consideration when you select the type of clearers to be used. There will always be some clearer waste at every roll, for every roll will pick up and retain a few of the short fibers and some of the pepper trash that constitute the major part of clearer waste. The amount of clearer waste will increase when a higher draft is used and when rolls have a wide spread over the staple length.

The question has always been whether revolving clearers are better than flat clearers, and this argument has not been settled after many years of trial or discussion. The answer is that the choice of clearers will have to depend upon the position of the roll, its speed, and the fiber that is being drafted.

Both types of clearers have inherent faults; the revolving clearer is apt to deposit small clumps of waste on the rolls and into the yarn, while the flat clearer forms eyebrows that must be picked frequently if the waste is not to be picked up by the yarn and drafted into it. In either case, the accumulation of waste will appear in the yarn as a large, soft, dirty slub, or will cause an end down at the traveler.

In general, revolving clearers are used for the front line of rolls, flat clearers for the back lines. The main objection to revolving clearers is that they occasionally slip in contact with the top roll and allow a small clump

# SUPREME'S AMAZING NEW LT/SA

## opens new sales routes in both regular and long loop striped terry

**SUPER-VERSATILE KNITTER WIDENS PROFIT POSSIBILITIES IN BEACHWEAR, SPORTSWEAR, OUTERWEAR, TOWELING, ETC.**

Knit fluffy, long, super-looped terry or regular, smooth, short loop terry. Knit both types in plain colors or with automatic 4-color stripes . . . on Supreme's new multi-fabric producer—Model LT/SA.

The loops are snag resistant and can be easily adjusted for different lengths and densities. The LT/SA knits a broad range of yarn sizes to produce fabrics ranging in weight from heavy bathrobe terry to light polo shirt fabric. In addition, a wide variety of natural and synthetic yarns can be used for many consumer-appealing texture variations.

**EASILY CONVERTIBLE TO JERSEY PRODUCTION IN YOUR MILL**

The LT/SA is Supreme's outstanding multi-fabric sales knitter. It can be easily converted into any machine in Supreme's famous striper line . . . Models SA, SA/ROF or SA/AF. This enables the knitter to produce the entire range of Supreme patterned, striped or pattern-placer cloth. Machines may also be purchased complete as Models LT/SA-ROF or LT/SA-AF.

**Production Rates—**

**Striped Terry**—Up to 20 yards per hour.

**Single Color Terry**—Up to 30 yards per hour.

**As an Automatic Jersey Striper**—Up to 40.5 yards per hour plain jersey . . . Up to 25 yards per hour Automatic Stripes.

*Write for complete information and free sample swatches*

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**CONSOLIDATED TEXTILE reports:**

# FIRES DUE TO TRAMP IRON ELIMINATED IN ROVING WASTE MACHINE CONVERTER

***ERIEZ* Permanent Magnetic Separators Remove ALL Tramp Iron From Waste Cotton**

Two Eriez permanent (non-electric) plate-type magnetic separators, installed on the feeding line of a roving waste machine converter, are removing practically *all* spinning travelers and other tramp iron from re-workable waste cotton at the Consolidated Textile Co. Inc., Lynchburg, Va. During the three years prior to the installation of the Eriez equipment, *six* fires started in the waste machine from sparks generated by tramp iron striking against the machine's rotating beaters. These fires resulted in $1200 damage to the machine and materials. Since the Eriez installation there have been no fires caused by tramp iron, and the life of the beater lags has been materially increased!

**Eriez permanent (non-electric) plate-type magnetic separators are the most economical and efficient means of removing stray iron and steel from *all* wet or dry fibers. They prevent the entry of tramp iron into openers, beaters, garnetts, cards and other expensive processing machinery . . . eliminate the possibility of steel striking sparks and setting destructive fires!**

***Here are 5 features exclusive with Eriez magnetic separators:***

1. Riveted construction adds rigidity . . . increases structural strength.
2. Continuous hinge means easy, permanent installation.
3. Cover adds to longitudinal stiffness . . . prevents tampering and accumulation of iron on backs of castings with consequent shorting of magnetic circuit.
4. Insulation confines magnetic strength to working surface . . . no bleeding to surrounding areas.
5. Flush air gap prevents gathering of fine iron which can short out magnetic field.

Write today for FREE 6-page Bulletin 563 which describes all Eriez magnetic separator installations for the Textile Industry.

ERIEZ MANUFACTURING COMPANY

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***Nine Out of Ten Textile Mills Specify ERIEZ***

of clearer waste to be wiped off and dropped into the yarn. However, on the front roll, where high speeds would rapidly build up eyebrows on flat clearers, revolving clearers are more satisfactory than any other type. On the slower back lines of rolls the flat clearer is quite satisfactory, especially when the top-roll covering and the nap of the clearer cloth are in good condition.

Eyebrows are formed because the surface of the top roll is so slick that it has lost its ability to grip the fibers. The roll will still carry the clearer waste up to the clearer but will not be able to tuck it under the space between the roll and the clearer cloth. As a result, the fibers collect in front of the clearer and roll, and each succeeding group of fibers hangs down farther in front of the roll.

If this accumulation is not picked in time, it will eventually drop or be pulled into the strand of fibers and twisted in the yarn. However, if the top roll is buffed lightly and often, the clearer waste will be carried well under the clearer, particularly if the clearer is set well forward over the roll. Under these conditions there will be a minimum of eyebrowing and the waste will be collected in the proper place.

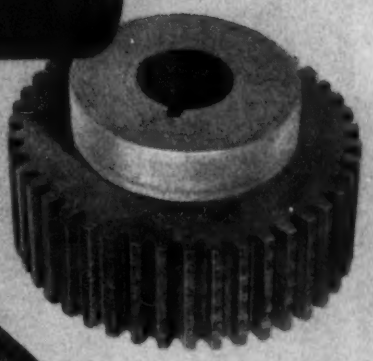
The second phase of properly functioning clearers is holding the collected waste until it is removed by picking. This retention depends upon the clearer cloth; it must have a good nap and must not be worn, oily, or impacted with old waste. If the clearer cloth is slick and hardened with old waste, the new clearer waste will build up behind the roll and will soon drop into the yarn.

Regardless of the types of clearers that are used, their effectiveness is, in the final analysis, completely dependent upon setting up and maintaining a picking schedule so that the clearers will be picked often enough to assure that the accumulation of waste will not be so great that it will be carried into the work. Keep clearers on all rolls, keep them in good condition, use only well buffed rolls, pick often, and the decrease in slubs and defects will more than repay for the time and trouble expended.

here's why...

# MORE and MORE mills are turning to micarta®...

LAP ROLLS



GEARS

SHUTTLES

SPIN BOBBINS

## because of these qualities . . .

**Saves Weight,** weighs half as much as aluminum. **Resists Compression,** pound for pound greater than steel. **Resists Impact,** absorbs and withstands severe shock. **Withstands Vibration,** cushions repeated shock without effect. **Insulates** like mica but greater flexibility. **Resists Corrosion,** not affected by acids, oils, fumes. **Resists Heat and Cold** from −112°F to 212°F. **Resists Moisture,** in fact, water is its best lubricant. **Wears Slowly, Evenly,** in many cases more slowly than metal. **Reduces Noise,** absorbs vibrations, deadens noise. **Fabricates Easily,** machined or punched with ordinary tools.

## because of these flexibilities . . .

**Laminated MICARTA** includes standard structural shapes: plates, sheets, angles, channels, rods, tubes and zees. Occasionally this class includes simple molded shapes. **Molded MICARTA** is the choice for complicated shapes, large production quantities of either simple or complicated shapes, or for certain properties better obtainable in form molding.

## because micarta is basic . . .

**MICARTA** is a tough and resilient basic material that welcomes comparison with other basic materials. This versatile plastic outlasts wood and metal in many punishing applications. Investigate MICARTA and you'll find it the economical solution to tough production problems.

**for more information on how MICARTA can help solve your production problems, and give you advantages no metal can give you, please fill out the coupon below. A MICARTA representative will then call on you personally.**

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## Barre Cloth

(*Continued from page 113*)

housing in a vise with the worm-shaft position at the top. Tighten the handwheel extension and the handwheel to the worm shaft temporarily and insert the shaft in the housing. (The worm and other parts are left out.)

Raise and lower the handwheel to check the worm-shaft bushing for wear. Replace a worm bushing to eliminate lost motion. If the new bushing is found too small for the shaft, don't cut the shaft down; ream out the bushing with a $\frac{7}{8}$-in. hand reamer.

4. Fit the parts to the housing. Pull the shaft out of the housing, and place the worm wheel in the housing. Put the fiber washer and worm in the housing. Insert the worm shaft through the worm, fiber washer, and housing, and tighten the collar for the worm shaft to the shaft. Turn the handwheel clockwise and counterclockwise to check for lost motion and binding. Both defects will show up at once. Remove the parts from the housing when you're satisfied they're o.k.

5. Put in the grease. Drop the spindle through a hole in the workbench so that the concave surface of the housing is up. Fill the housing with $\frac{1}{2}$ lb. of grease. Press the worm wheel in the grease, and reassemble the complete worm-shaft assembly. Cover the encased parts with not more than $\frac{1}{4}$ lb. of grease, and replace the cover for the housing.

Replace the plunger rack assembly and the beam-bearing support.

You're all set now to put the let-off back on the loom and attach the plunger lever.

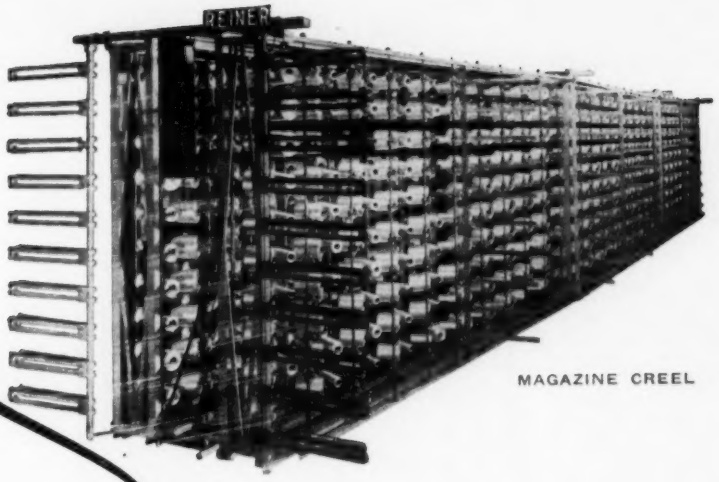
### Adjust the Let-Off to the Weave

After the warp is started, adjust the connector to the plunger lever so that the handwheel turns regularly. If the handwheel stops, it should stay stopped the same number of plunger-lever movements each time. Stops of six or more movements usually make wavy cloth.

Plunger-lever adjustments are easily made while the loom is running.

Check the warp tension at least once each 24 hr. on weaves that have a lot of picks per inch. On low-pick-age materials, check the tension each shift.

It's bad practice to run warps too tight. Too-tight warps wear out the let-off needlessly and, in addition, cause warp ends to be broken; slamming off, and broken lay ends and broken lay swords that result from slamming off; shuttles thrown out of the loom or thrown away from the

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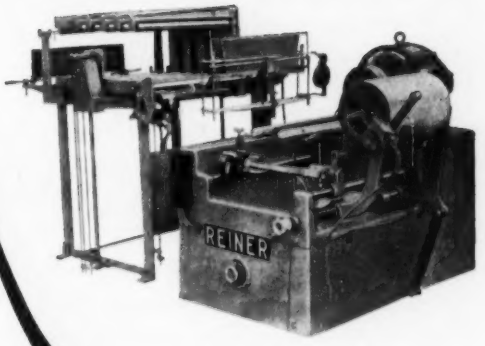
# A PERFECT TEAM

**—designed to meet the need for speed, quality and economy—the very essentials for perfect production.**




SECTIONAL WARPER
Model SW-24 with Yarn Storage Device

REINER CREELS*—Magazine, Single Type, Truck or Special Duty—are of the most modern construction, meeting all requirements, suitable for all yarn packages including nylon pirns. Available with mercury contact, electrical drop lever and loom type (drop heddle) stop motions, balloon control, variable pin disc tensions to serve all possible mill needs, from the finest to the coarsest yarns. Many other features are described in our creel catalog—yours for the asking.

REINER WARPERS*—Sectional and full width—are of rugged construction—able to withstand the highest speeds and heaviest use. The Reiner automatic yarn storage device is designed to take off yarn from the spool to facilitate repairing of broken yarn ends without disturbing the yarn tension. Sectional warpers available up to 84" in length, with flange diameter up to 21". Shorter models adaptable to multiple spools for the milanese and narrow fabrics trades. Many patented features insure ease of handling, safety and above all—quality warps. For further details ask for our Warper catalog.

*Reiner Warpers and Creels can readily be used with any make warp knit equipment.

To Buy Reiner means to have a fully interrelated line of equipment from cone to fabric. It means ready advice and spare part service—in short, the best assurance of profitable and reliable production.

## THE REINER LINE INCLUDES:

*Tricot Machines (2- and 3-bar, 84" and 168")—Simplex (Double Knit) Machines—Raschel Machines—Full Width and Sectional Warpers—All type of Creels—66 and 72 Gauge, Four Section Full Fashioned Hosiery Machines—Automatic Schiffli Embroidery Machines (10 and 15 yards)—Bobbin Winding Machines (for Stitching and Quilting).*
*—Ready spare part service for all Reiner equipment.*

1903 50th Anniversary 1953

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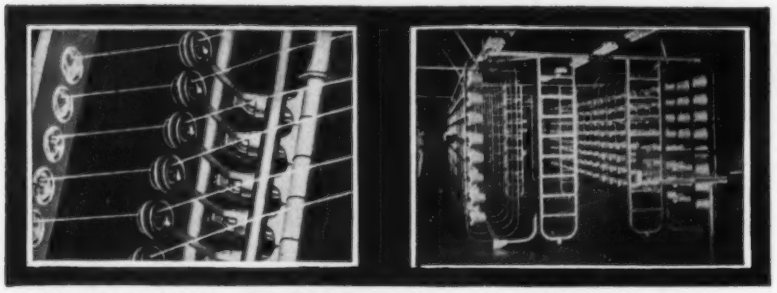
FOUNDED IN 1903 — 550-564 GREGORY AVENUE, WEEHAWKEN, NEW JERSEY

# Mc BRIDE MAGAZINE CREELS

## *Designed For Efficiency . . . And Economy*



McBride Sealed Mercury Switch Stop Motion

McBride Magazine Creel

● McBride Magazine Creels are designed to speed warping and to cut warping costs — efficiency plus economy — and numerous installations of McBride equipment throughout the industry are proving that they do just that.

● Every creel is equipped with McBride patented swinging arms and electro-magnetic stop motion which halts operation as soon as a yarn break occurs. The totally enclosed two-way signal light that is an integral part of this equipment provides for immediate location of broken ends. And McBride's mono rail construction insures easy cleaning. But as important as any other feature of McBride's SRM Magazine Creel is the fact that every creel and installation is individually engineered to the needs of the user . . . to the type of yarn and weave, the space available, the warping equipment and other specific requirements of the individual mill.

In the warping of cotton, wool, worsted and synthetic yarns, McBride's SRM Magazine Creel has proven that it can save time . . . and money.

**CREELS FOR EVERY PURPOSE — WARP BEAMS — FLANGES — ROLLS**

**Mc BRIDE**

**EDWARD J. McBRIDE COMPANY, INC.**
**1410 ADAMS AVENUE**
**PHILADELPHIA 24, PA.**


true-flight line; skips in the cloth; wavy cloth; and other fabric defects.

On the other hand, a too-slack warp can cause wavy cloth, especially at the temples; excessive beat-back; shuttles thrown out of the loom; and skips in the cloth.

If you adjust the beam width so that you have a straight line from the whiproll to the cloth width at the breastbeam, you can use less weight on the warp.

Find the correct warp tension for each weave—and keep the tension set right.

### When Should You Recondition a Let-Off?

Use the cylinder for the oscillation dampener to reduce excessive beat-back. On many light weaves, you'll do better to disconnect the piston-rod head and not use the dampener. Of course, the number of weights can be reduced if the dampener is used.

The dampener, too, should be cleaned and have new oil put in when the let-off is reconditioned.

The let-off housing should be oiled at only one place—the bushing for the worm shaft. Any other oil that is added will not lubricate but will only soften the grease.

Let-offs that are caught in time can often be reconditioned if the worm-shaft bushing, fiber washer, and grease are replaced. The total grease and parts cost is $0.60. A good loomfixer can rebuild a let-off in 1 hr. after he's set up with the correct tools and equipment.

Your weaving conditions will determine how often you should overhaul your let-offs. Once a year isn't too often to have a look inside them. But don't play around with your let-offs. Set them up right, and let the looms run.

---

## Diesel-Driven Generator

*(Continued from page 143)*

drives a 50-kw. generator at 1,200 rpm. through a belt drive. Other machines are driven direct through a line shaft. Three-phase current at 220 v. is generated and delivered directly to the lines feeding the 220-v., three-phrase motors on the machine drives. Current for the lighting is transformed to 110 v., single phase.

### Control Equipment Minimizes Labor

The diesel engine is equipped with an accurate governor mounted directly on the crankshaft to control and maintain the constant speed at all times. Lubrication is completely au-

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But, your larger size fire hazards can be protected very efficiently at a reasonable cost, thanks to C-O-TWO Low Pressure Carbon Dioxide Type Fire Extinguishing Systems. Simple piping, running from one centrally located storage tank, instantly transports clean, non-damaging, non-conducting carbon dioxide anywhere in the plant area...to flammable liquids, electrical equipment, storage spaces, manufacturing processes and record vaults. Fire at any protected location is extinguished in seconds with an absolute minimum of expense and interruption.

Flexibility is the keynote with these C-O-TWO Fire Extinguishing Systems . . . the low pressure carbon dioxide storage tanks range in capacities from one to fifty tons . . . discharge facilities can either be manual mechanical, manual electric, automatic mechanical, automatic electric or a combination of these . . . especially installed to fit your particular needs. Future plant expansion is easily and economically provided for by initially installing an oversized low pressure carbon dioxide storage tank and adding the supplementary discharge facilities at a later date.

Whether it's fire detecting or fire extinguishing . . . portables or built-in systems . . . C-O-TWO means experienced engineering that assures you of the best type equipment for the particular fire hazard concerned.

**WHEN BUSINESS STOPS . . . INCOME STOPS!**

Don't take chances with your investment. Secure the benefits of highly efficient fire protection engineering today . . . our extensive experience over the years is at your disposal without obligation. Get the facts now!

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MANUFACTURERS OF APPROVED FIRE PROTECTION EQUIPMENT

Squeez-Grip Carbon Dioxide Type Fire Extinguishers
Dry Chemical Type Fire Extinguishers
Built-In High Pressure and Low Pressure Carbon Dioxide Type Fire Extinguishing Systems
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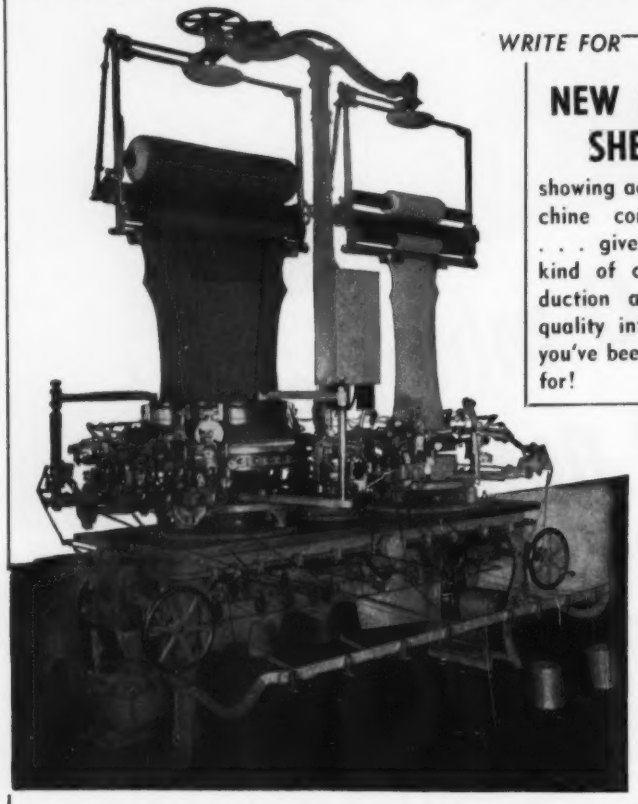
# WILL TURN OUT TWICE AS MUCH FABRIC

**as one operator running Multiple Feed Latch Needle machines with same number of bobbins, plus**

# PERFECT CLOTH all the way!



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**NEW DATA SHEET**

**showing actual machine comparisons . . . gives you the kind of cost, production and cloth quality information you've been looking for!**

**fully modern!**
**TOMPKINS D-2 DOUBLE HEAD SPRING NEEDLE KNITTING MACHINE**

**YOU CAN TAKE YOUR CHOICE of lower cost per yard (with less operators) or doubled production with perfect cloth all the way . . . with a maximum versatility of fabrics!**

**WRITE OR PHONE FOR YOUR COPY of the NEW DATA SHEET which covers such important subjects as Fabric Flexibility; Perfect Rolls of Cloth; Needle Breakage Reduced One-Half; and Needle Savings!**

*SEE THE TOMPKINS D-2 IN PRODUCTION ON WHATEVER YARN OR FABRIC YOU WISH . . . SEE FOR YOURSELF HOW THE NEW SPEED AND NEW ECONOMY OF THIS MACHINE WILL ENABLE YOU TO COIN NEW PROFITS FOR YOUR MILL*

# TOMPKINS BROS. CO.

*ESTABLISHED 1846*

**629 Oneida St. • Syracuse 4, N. Y.**


tomatic, and an occasional inspection is the only attention required. An oil filter is installed as a part of the lubricating system. There have been no failures in automatically maintaining a positive circulation of clean, filtered oil to all parts at all times.

The owner of the plant claims that his No. 2 fuel-oil consumption per hp. is very low, and he attributes his low operating maintenance costs to the simplicity of construction and the small number of moving parts. The two-cycle principle delivers a power impulse on each downward stroke of the pistons. This feature is said to assure uniform delivery of power to the driven machines with the use of a small flywheel.

The design of the control equipment is credited with greatly simplifying the operation and reducing the attention required. These controls are centered in a compact, easy-to-reach unit, located at one end of the engine, that also houses the fuel-injection pumps, the air-starting mechanism, and the governor. The temperature of cooling water is regulated by control valves, and no trouble has been experienced from overheating of the engine. The engine has remained comparatively free from carbon deposits after long, continuous operation.

## Continuous Chain Dyeing

(*Continued from page 127*)

4. Record the rake spaces used and then time each recurrence of the marker at the front reel. With a little care an ordinary pocket watch with a second hand is very satisfactory, but a stop watch is better.

On a washer, running in its normal way, the test can be made, but each time a marker goes all the way through, another must be affixed to the entering cloth. This need not be done instantly, but within a few minutes. The total elapsed time must be recorded, including the intervals, because the strands are losing and gaining even when the marker is not on.

5. Record the elapsed times to get the cycle for each strand position by the marker. At least five cycles should be recorded but eight are better. The total times for each passage all through the machine should be recorded. If one differs by more than a very few seconds from the rest or from the trend of the rest it indicates slippage on the oval reel.

The test results are explained for a typical run, shown in the accompanying table.

The strand in R8 lost at the great-

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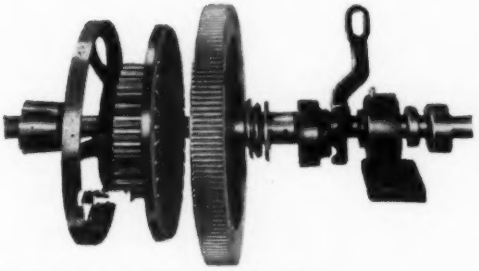

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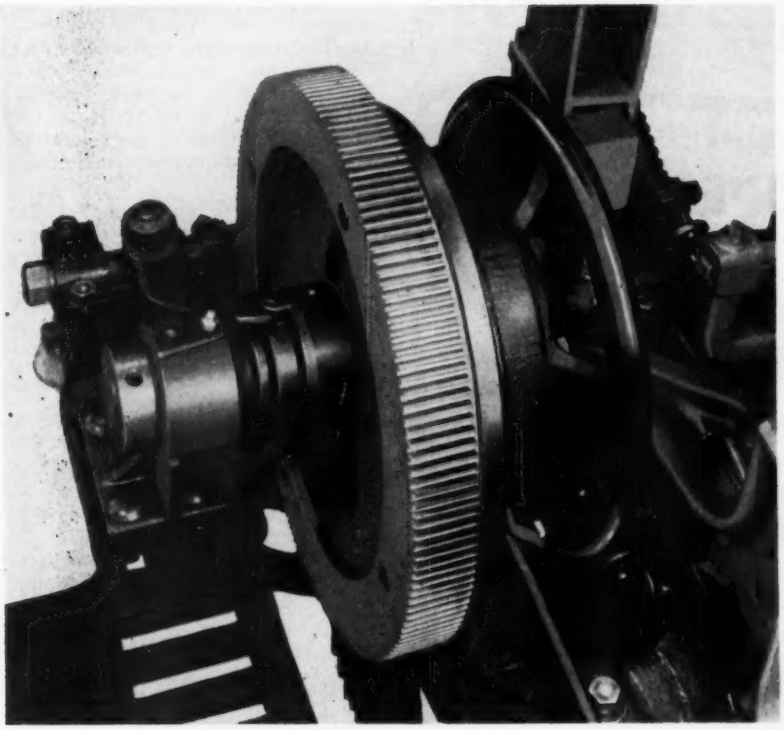

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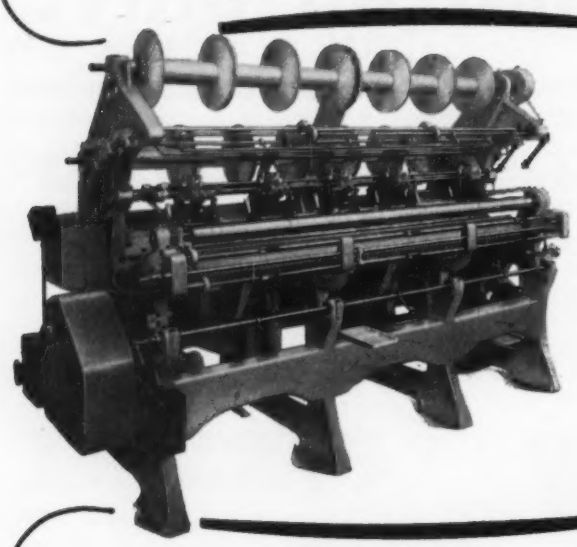

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est rate because it lost more seconds in the time of the test than any other strand. Seconds are very nearly proportional to yards because the reel speed is nearly constant. The loss rate is 10 sec. per hour. If the average load per strand is 80 sec. a short-line will occur in 8 hr. R7 is growing longer at a rate of 11 sec. per hour. It is a moot question how long a line can get before trouble comes, but for the sake of giving a grade to the reel it will be said that the maximum change rates are 11 sec. per hour lengthening, and 10 sec. per hour shortening. The non-uniformity causing shortening is the same as the non-uniformity causing an equal rate of lengthening, but one means a depression in the reel outline, the other a protuberance.

Any reel with either rate in excess of 8 sec. per hour at the usual speed of the oval reel is a very questionable piece of equipment for continuous-chain work. This limit may seem quite arbitrary and perhaps too high to some, but a careful study of a large number of reels will show that even the best commercial reels usually have at least one position that gives a higher rate than the more desirable rates of 3, 4 or 5 sec. per hour, and it seems hardly fair to make demands that are not at present commercially practical.

It should be apparent that the change rate is proportional to reel speed. The slower the perimeter speed, the lower the change rate.

Sometimes on a perfectly good reel the strand at either end will lose or gain rapidly. This is due to faulty operation and can be corrected by a skilled machine operator.

There is a very interesting deduction remaining to be made from the tabulation above. First, it is evident that the return line does not gain or lose, but stays constant at about 7 sec. This is the time taken for cloth to go from R15 over the oval reel and then diagonally to R1. R1 to 2 is getting continually longer and that can only mean that the oval reel opposite B2 is smaller than opposite R1 and so pulls cloth out of R1 to 2 more slowly than it is supplied by the return line. R2 to 3 is also getting longer and this means that cloth is being pulled out of R2 to 3 more slowly than the oval reel furnishes it from R1 to 2, and thus the oval reel opposite R3 is smaller than opposite R2. If this reasoning is continued and the reel profile is sketched, the result is shown in Figure 9. Every reel spider is clearly indicated. The author has done this repeatedly for reels with unusual weak slats. Reels with strong slats will not give an indication of the spider location.

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nor will reels with smooth metal covers.

The reel profile sketched thus is a profile of the reel under load, a dynamic picture. When such a reel is stopped and measured, there is again no indication of the spiders.

Modern reels usually consist of a core, several spacers or spiders firmly attached to the core, and a number of slats attached to the spacers to form the outer surface contacting the cloth. The spacers may be built up of several pieces of metal and braced sideways. All reel parts are usually welded to give maximum stiffness. To analyze a structure of this nature and calculate the unit deflection of various points along the length is a laborious task and is of no use unless the force due to pulling the cloth is known. From experience, however, it is known that the central core and spacers of any reel that is strong enough to stand up in service will have enough stiffness to keep the short-line problem well under control.

## Warp-Sizing Development

(*Continued from page 137*)

are easily removed from finished fabrics.

In preparing sizing mixtures for the slasher, softeners are added to increase the flexibility of the mixture and to help resist jelling. Fat (usually tallow) is added to ease the friction between the yarn surfaces. Gums and glues are sometimes added to increase the adhesiveness and strength.

Prepared starch sizes that contain these additives in the required proportions are available from several sources.

Formulas used for a particular type of fabric in any specific mill will, of course, vary. The requirements that the sizing has to meet and the prevailing conditions in a mill determine the formula. The water supply greatly influences the results of a size mixture, since sizing materials are sensitive to the acidity or alkalinity of the water.

Most starch sizes require about 1 lb. of starch to 1 gal. of water, plus the additives.

### How Can You Recognize a Good Sizing Material?

It's easy to tell when a sizing material is bad—the looms just won't run—but it's often hard to tell a good sizing material from a fair one.

The final test of the efficiency of a sizing material or the efficiency of a method of applying it is in the weave room. If warps sized with a certain formula or by a certain method increase the weave-room efficiency, that particular material or method is an



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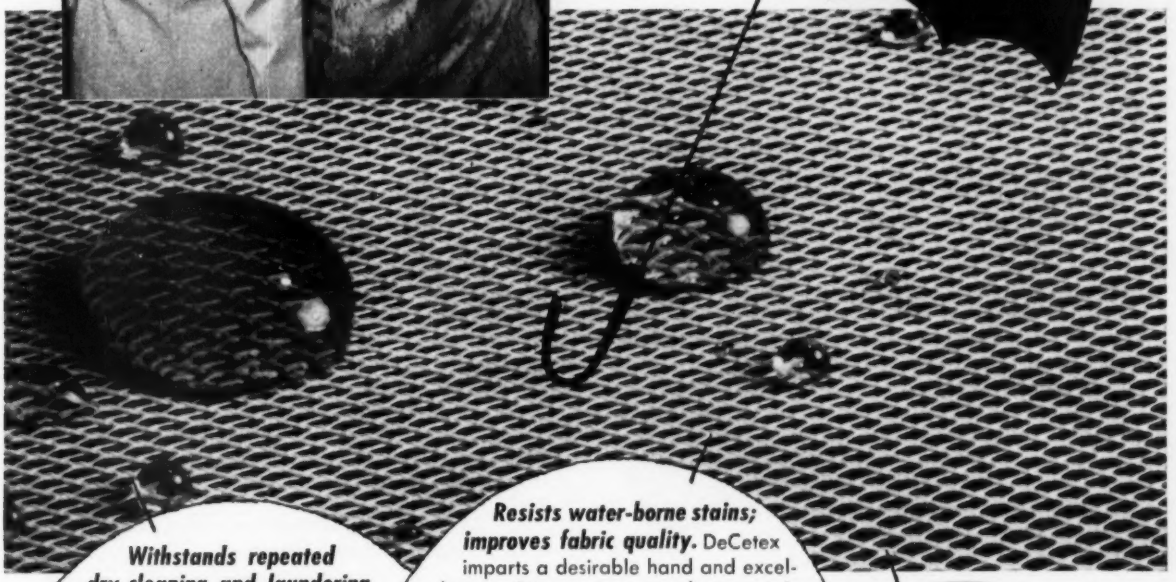

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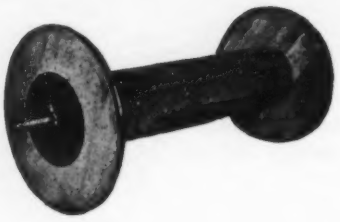

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advance. Since weave-room efficiency is determined by the idle time of the looms, any sized warp that reduces the idle time is an improvement. The trick is to check loom stops and find out what stops can be attributed to faulty warp sizing.

To evaluate any given sizing material or method is not easy, since it involves observation and checking of weave-room efficiency over a period of several weeks. This situation has been responsible for a lack of advances in sizing operations. When a mill found a combination of sizing material and a method of applying the material that gave satisfactory results, it did not wish to change because of the disruption of weave-room operations during a period of experimentation. As a result, progress in warp sizing has been slow.

Some of the recent research in slashing has been aimed at eliminating this inertia. Loom stoppages have been analyzed by statistical methods to provide a basis for evaluating new materials and methods in a short time.

Sizing research has also been facilitated by the development of laboratory and pilot-plant slashers. "Blanket weaves" have also contributed to the progress. A number of research laboratories and some of the larger mills are using these new facilities.

Where such equipment is available, tests are made without the weave room being involved. Then, when a given material or method shows promise, it is applied near the end of one warp for a preliminary weave-room test. If this test shows promise, a full-scale weave-room test is made.

### What Advances in Equipment Are Available?

Advances in slashing equipment have contributed substantially toward the production of better and more uniformly sized warps. These improvements have also increased the speed of slashers.

One of the most notable advances in slashing equipment is the development of the air dryer. Originally, the air dryer was used to slash worsted yarns, but it is now being used for cotton warps. In a typical cotton mill, warps are now being sized at a speed of 70 yd. per min. in the air-drying slasher, compared with only 30 yd. per min. in old-style, drum-drying units.

One of the big advantages of the air-drying slasher is that a "wet split" may be used. The warp yarns are split or separated right after they leave the size box and before they enter the drying chamber. By the time the yarns pass over the first roller in this chamber, the size has hardened considerably so that there is little ad-

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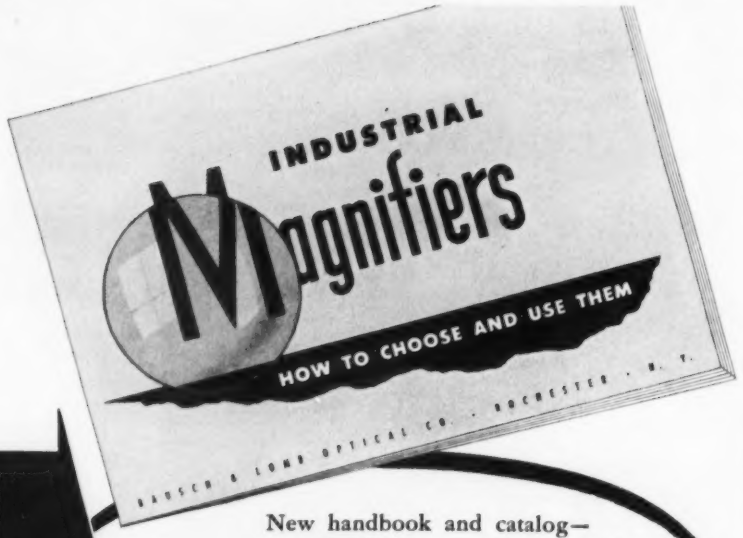


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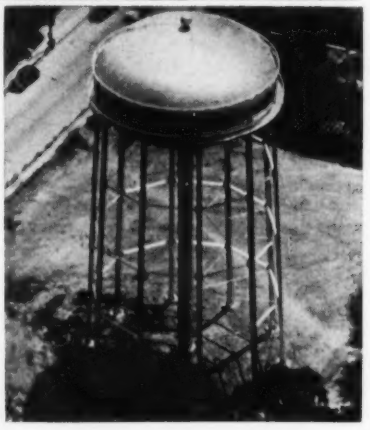

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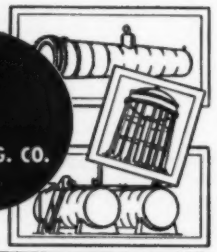


herence between adjacent sized yarns when they leave the drying chamber. As a result, warps sized on this machine are smoother than those sized on drum-drying machines.

Equipment developed in recent years permits precise control of the variables entering into the sizing operation. These controls begin at the size-preparation kettles and continue through to the front of the slasher where the sized yarn is wound on the warp beam. Electrical temperature controllers are now in regular use and hold the temperature in the size-preparation kettles at any desired level for any required time. The controllers operate to actuate solenoid valves that admit steam to either the interior of the kettle itself or to the jacket, if jacketed kettles are used. Similar controllers regulate the temperature of the size material in the size box on the slasher.

Another electrical controller maintains the level in the size box within the desired limits. This controller actuates another solenoid valve that opens when the size level drops below a predetermined point. The open solenoid admits additional size solution from the storage kettles.

One important controller holds the moisture content of the sized yarn constant within narrow limits. When it is wet, the starch film on the sized yarn is a fairly good electric conductor. Its resistance increases as its moisture content is reduced. This property is utilized to control the drying so that the electrical resistance of the sized yarn (and the moisture content) are held within the desired limits. The controller also records the moisture content of the warp. It is connected electrically to the frame of the slasher and to an insulated roller contact that rides on the top of the sized yarn at the front of the slasher immediately above the last roller over which the warp yarn passes before it is wound on the beam.

In drum-drying slashers, this controller varies the speed of the slasher to hold the moisture content of the sized yarn within the required limits. In the air-dryer slasher, however, it varies the temperature inside the drying chamber and leaves the slasher speed entirely under the control of the operator.

Still another important control limits the over-all stretch of the yarn to a predetermined maximum value, usually not more than about 5%.

Improvements in slasher drives also have contributed to better sized warps. Electronic devices now in use provide smooth, stepless control of the slasher drive motor at all speeds. This control minimizes yarn breakage when speed

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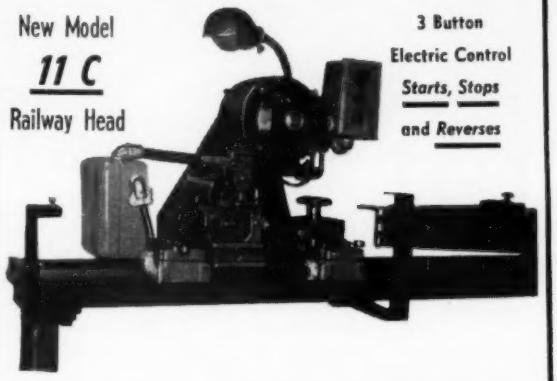

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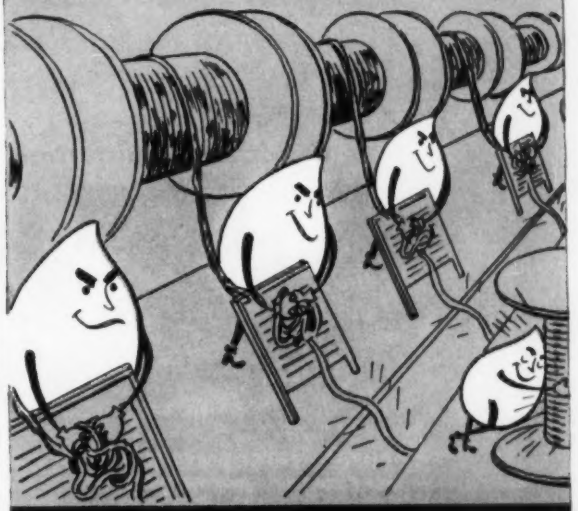

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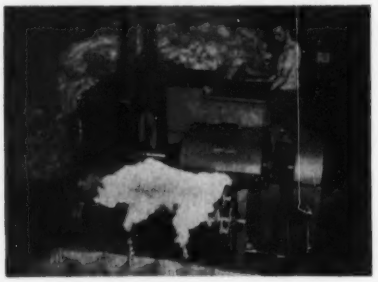
## Cuts Two Tons of Nylon Waste an Hour



The user of this machine says, "We are well satisfied with this machine. It does a good job and has enabled us substantially to increase production."

As in other Taylor-Stiles Thread Waste Cutters, the feed elements in this machine have been specially designed to assure efficient cutting of nylon and other synthetics.

As a result, down time is reduced and daily production is increased.

TAYLOR-STILES and Company
CUTTING MACHINES & KNIVES

*For further details of this and other Taylor-Stiles Cutters, write for four-page, fully illustrated Folder #201.*

15 Bridge Street,
Riegelsville, New Jersey


changes are made and while the slasher is being brought up to operating speed.

Another development that may be of significance in the future is a slasher with a gas-fired dryer. A unit of this type is now in experimental use, and its progress is being watched with a great deal of interest by the textile industry.

Some textile mills are now using homogenizers for the further improvement of their size solutions. The characteristics of some types of starches appear to be improved somewhat by homogenizing, but there is no unanimity of opinion on this subject.

The advances in warp-sizing materials, equipment, and techniques developed in recent years assure higher weave-room efficiencies.

## Applying Resins

(*Continued from page 107*)

heavy pad, one capable of exerting 12 to 15 tons pressure, with a stainless-steel bottom roll and a top roll of rubber as hard as is consistent with good wearing qualities.

What we are after is deep impregnation with a minimum of surface resin left on the goods. The box should be of stainless steel, jacketed to carry a refrigerating liquid. Immersion of the goods under a stainless-steel roll is important to thorough saturation, and a rubber Mycock-type expander is a must to insure removal of wrinkles prior to the squeeze.

The pad may be actuated by compressed air or by purely mechanical means, but in any case an even nip that may be depended upon to give consistent pressures from day to day is necessary.

The pad is generally in tandem with a dryer, which may be a clip tenter or a slack dryer of the Airlay or Airfloat type. Loopers are not recommended unless they are especially worked over for the purpose, since cloth processed through loopers will invariably develop small creases where it lies on the girts and these marks become permanently fixed during curing.

### —Tenter

The choice between tenter or slack drying depends on the goods being handled.

Generally, tenter drying can be expected to give a slightly firmer hand, but this effect can be modified if necessary. Where width control is important, the tenter is used, since at this point the finished width may be controlled more easily than when a slack dryer is used. When the cus-

# Rayon Reports

## Avcoset® Adds Strong Selling Points To Manufacturers' Lines

***Process controls rayon shrinkage, makes fabrics fully launderable, and helps move merchandise faster***

A growing number of manufacturers of textile products are turning to Avcoset as a means of offering the consumer additional benefits. Avcoset is a process for stabilizing rayon fibers. It eliminates progressive fabric shrinkage even with repeated washings, enabling mills, converters and manufacturers to promote many rayon fabrics as completely washable.

Avcoset treated fabrics are non chlorine retentive and, therefore, are not adversely affected by normal bleaching during laundering.

Developed by American Viscose Corporation and made available on a royalty-free basis, the process uses a special cellulose ether-formaldehyde finish that affects only rayon fibers. It is achieving outstanding results in a variety of weaves such as challis, chambray, fuji and other shirting weights. It also is successfully used as a stabilizer for fabrics combining rayon with nylon, acetate and other fibers.

Inquiries about the Avcoset process are cordially invited. Address American Viscose Corporation, Converting Relations Department, 350 Fifth Avenue, New York 1, N. Y.


**MAKE USE OF *Avisco*® 4-PLY SERVICE**

To encourage continued improvement in rayon fabrics, American Viscose Corporation conducts research and offers technical service in these fields:

**1 FIBER RESEARCH**
**2 FABRIC DESIGN**
**3 FABRIC PRODUCTION**
**4 FABRIC FINISHING**

**AMERICAN VISCOSE CORPORATION**

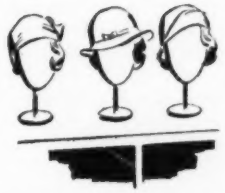
*America's first producer of man-made fibers*
RAYON ACETATE VINYON* FILATEX®
*Sales Offices:* 350 Fifth Avenue, New York 1, N. Y.; Charlotte, N. C.; Cleveland, Ohio; Philadelphia, Pa.; Providence, R. I.

*TMC & CCC


### RAYON 20 YEARS AGO

NEW YORK, January, 1933—A wider range of rayon men's wear specialties was sold this Christmas than in any previous year.

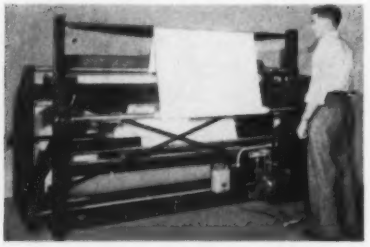
PARIS, January, 1933—New synthetic fur fabrics made of rayon are extremely popular here.



NEW YORK, January, 1933—Millinery leaders are featuring dull-type knitted rayon straw hats.

## *ANNOUNCING*

## NEW HEAVY DUTY HERMAS TUBER

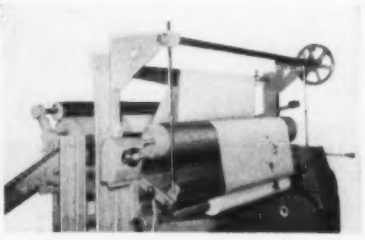


***This is the heavier, vibrationless, easy-to-operate tuber you need for smooth tubing of 36" dia rolls of fabric.***

It does straightedge guiding from 36" rolls, rewinding on paper tubes, collapsible rollers, or wood shells up to 15" diameter.

One man can load. Clearance at let-off permits operator to slide roll into machine on a dolly.

Three to one ratio variable speed drive, automatic seam detector and end-of-roll stopping device, and automatic brakes synchronized that eliminate fabric tension and over-run of let-off roll and measuring drum when the machine is stopped.



*Note how smooth and taut the cloth is as it feeds through the Hermas Tuber.*

Write for a full description of this new tuber and the optional features that can be supplied if you produce fiberglass or other heavy selvage fabrics that must be wrinkle-free.

## HERMAS MACHINE COMPANY

HAWTHORNE, NEW JERSEY


tomer requires a finished width outside the limits within which the goods naturally fall, this requirement can be taken care of on the tenter at the time of resin application. It is difficult to alter width once the resin has been dried in cloth in the relaxed state.

The drying, by whatever method, should proceed at top capacity of the machine to avoid overheating and the deposit of surface resins that will result at high temperatures and low speeds.

Early in the development of resin finishes, it was recommended that the initial drying be done at temperatures as low as 260° F., but production demands are not compatible with this figure. If the fabric travels through the dryer at a rate that produces goods just nicely dry, no untoward effects will be noted. A tenter range having graduated temperature control is ideal; it may be set for 275° F. at the entering end, with an increase to 300° F. in the center, and finally getting up to 350° F. at the delivery end.

## *Step 4*

### Curing the Resin

U-F resins are thermo-setting and require curing to develop into true resins firmly bonded in the goods. This effect is accomplished by the action of heat on the resin-plus-catalyst mixture with which the goods have been treated.

Another factor of importance is the production in the fiber of a large amount of fixed resins, and here curing conditions are important. The atmosphere in the curing oven must be low in moisture, since splitting off of water occurs during the actual resin formation and does not proceed well under conditions of high humidity. Further, the formation of free formaldehyde and undesirable amines is aided by excess moisture. This effect is most noticeable with catalysts containing ammonium ions or where ammonia is used as a buffer in the resin bath.

We can expect satisfactory results at a temperature of 325° F. with an exposure of 5 min. Higher temperatures and longer exposure will not produce a better effect and have been shown to increase the danger of bad odors developing in the goods.

Loop dryers are commonly used for curing and are satisfactory. Unless the fabric can be washed immediately or is heavy in weight and loaded with syrup-type resins, it should be rolled up on a low-tension winder as it leaves the looper. In a busy plant there is

# PNEUMAFIL Means

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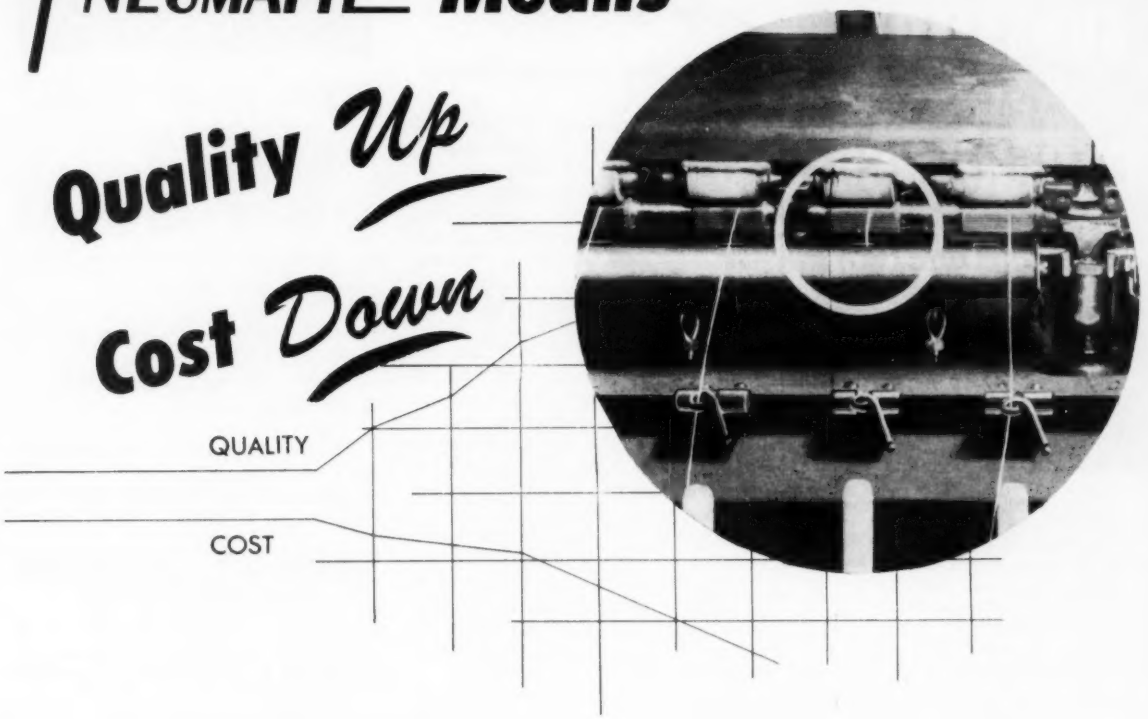
## Cost Down




Pneumafil* reduces slubs, gouts, and end piecings . . . and eliminates spinning doublings. This in turn improves production in winding, warping, slashing, and weaving. Pneumafil* materially reduces seconds in finished goods.

A mill spinning combed yarn reports elimination of 90% of slubs caused by flying lint. A South Carolina mill group spinning 30's reports 40% reties on spoolers and a reduction of 40 ends down per thousand spindle hours. A mill spinning blends says "seconds decreased to an all-time low,". . . another mill says "improved quality of goods *alone* will pay for Pneumafil*."

Pneumafil* cuts costs. You get more pounds of yarn from raw stock, more yarn production per frame per hour, and more production per man hour.

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*. . . for All Types of Spinning*

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*Trade Mark



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always the chance that goods will remain in a box too long; the resultant creases are almost impossible to remove without complete refinishing.

## *Step 5*

### Removing Excess Resin

Soaping or washing to remove excess and incompletely cured resin is done mostly on slack washers of the reel type or on Rodney Hunt machines equipped with squeeze rolls.

For heavy fabrics with considerable resin, open-width soaping is preferred to avoid crack marks. Flannels are also handled open width to avoid disturbing the nap.

The materials used may be any good synthetic detergent, plus an alkali such as soda ash. A pH of 9 to 10 is maintained with from 0.1 to 0.2% alkali. The detergent should be present in sufficient quantity to keep the bath free of scum. Igepon T gel is very satisfactory.

Temperatures for acetate-viscose mixtures are kept around 105° F. for the protection of the colors used. Thorough rinsing is important, since it is known that goods left in an alkaline condition are susceptible to odor formation.

#### Soaping

Good soaping practice consists of using a range of at least three, and preferably four, compartments; one for the detergent and alkali, one (preferably two) for rinsing, and a third containing a suitable softener. However, with good water flow, it is possible to eliminate one rinse box.

Aftertreated direct shades are generally soaped at 140° F. to remove loose colors so that fastness is improved. Vat shades may be soaped at even higher temperatures. A Rodney Hunt-type soaper may be used for added effect, but such vigorous action is not necessary. Vigorous soaping does have a definite effect on the finish and is considered by some finishers to improve the resiliency and loft of the fabric.

#### Drying

After soaping, the final drying is usually done on loop dryers or Airfloat or Airlay-types for the lighter-weight shirting fabrics and frequently on a pin frame equipped with overfeed for slacks and jacket fabrics. Where shrinkage control is desired, the looper is probably the best machine for goods slated for compressive shrinkage.

Care must be taken to keep tension off in all operations, particularly


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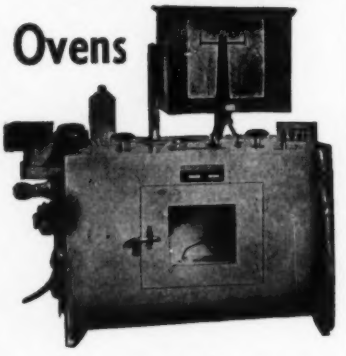
Textile Testing Ovens



For *accurate* testing of water content in yarn. The 8-basket oven, with 3" x 3" baskets, may be changed to 6 baskets, 4¼" x 4¼" both 6" deep. Occupies table space 20" x 40".

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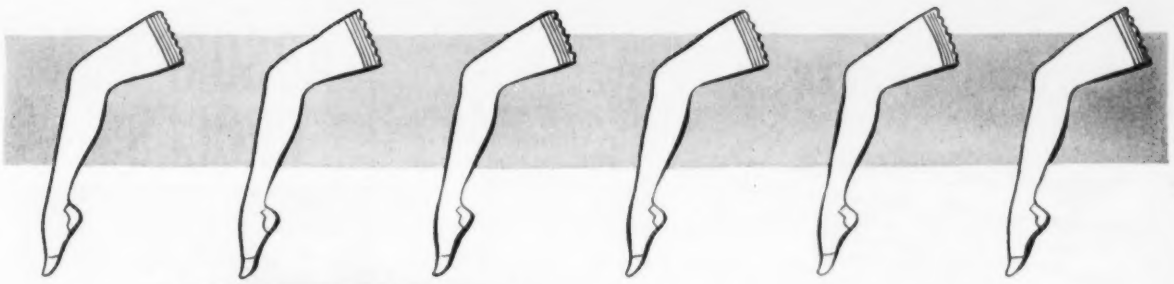
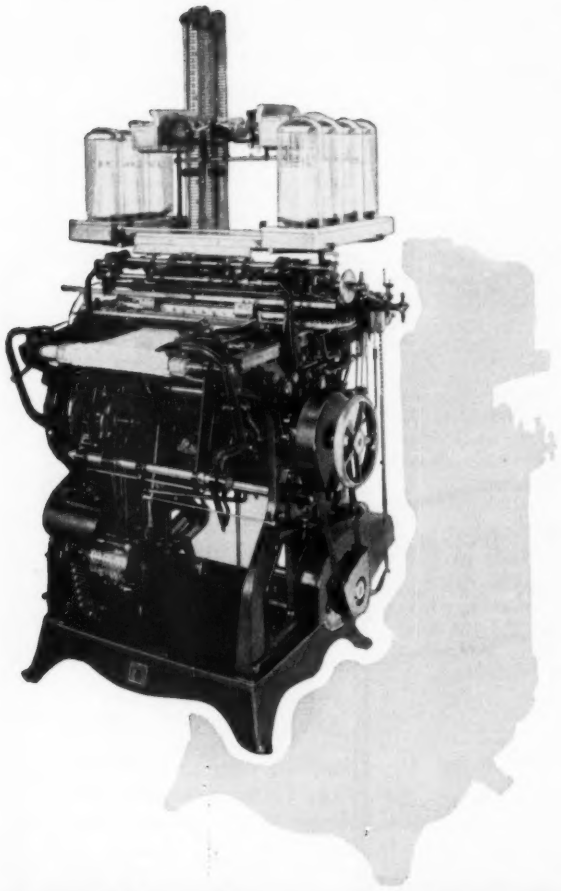


# Your VITAL Sales Program Starts Here!



Naturally, you want to be convinced . . . is this claim sound?

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In today's highly competitive hosiery market, you need a machine keyed to the needs of the market's style and quality requirements in fine gauge hosiery.

THE WILDMAN HIGH-PRODUCTION, FULL-FASHIONED HOSIERY MACHINE OFFERS JUST THAT—AND MORE!

You want a machine that operates with outstanding production. This WILDMAN machine produces 14 to 18 stockings per head per 8 hours—24 machines per operator.

You want an economical machine. This WILDMAN machine is automatic—after stocking has been started it is not necessary to stop the machine before the stocking has been completed. The machine then automatically prepares itself to start a new stocking . . . POSITIVE DESIGN reduces mechanical failures to a minimum.

Start your VITAL sales program with the WILDMAN High-Production, Full-Fashioned Hosiery Machine, NOW!

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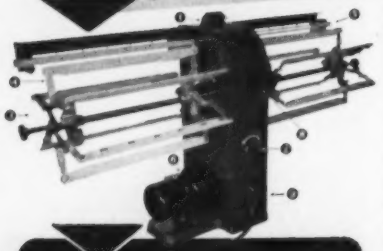
The New
FIDELITY SKEIN REELER
OFFERS THESE IMPORTANT
Improvements



1. Automatic skein-weight control.
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3. Free-end collapsible reels.
4. Adjustable reel size.
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6. Automatic motor brake.
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The most radical development in skein reeler design in more than forty years.

Operator efficiency may be increased from 25% to 100% depending on yarn processing methods.

Automatic features eliminate the necessity for constant attention, permitting one operator to service several machines.

Available single end or double end, handling from six to twelve skeins, these new skein reelers are a challenge to old-fashioned production methods. Write for the latest information on this marked advance in skein reeling.

Manufacturers of intricate precision machinery Since 1911.

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during winding on rolls. Drying temperature in this last operation should not be excessive, but again ideal conditions cannot always satisfy production requirements. It is customary to run loopers at 350° F.; and if they are run at capacity, little apparent damage is done to the finished goods.

### Shrinkage Control

Where shrinkage limits are 2 to 3% at 212° F. wash test, the goods are run through a compressive shrinker to be oversbrunk. This practice takes care of the tensions developed when, as a final operation, the goods are run down a short open tenter with steam to obtain required width and get the goods into roll form for inspection and packing.

In many cases the shrinker used is a Palmer unit. The finishing effect obtained by the dampened cloth being placed between the blanket and cylinder is desirable because it produces a smooth surface that adds silkiness to a shirting fabric.

Dimensional stability can also be achieved with the pin frame, provided it has an overfeed device; and many customers demand this type of finish. Since the goods are well relaxed when they reach this operation, care should be taken not to overdo the effect. Ripples will occur along the selvage if excessive cloth is fed into the machine. When overfeed is properly controlled, fabric coming off the pin frame is ready for inspection and packing.

In the final framing operations, great care is exercised to be certain that the filling is square with the warp. Mechanical straighteners or an electric eye device may be used. The latter works best on fairly open fabrics.

### Resin Formulas for Vat-Dyed Goods

The simplest resin mixes are used on vat-dyed shirtings. These goods vary from 2.10 to 2.65 yd. per lb., and the hand desired is resilient and silky. For such a fabric, a general formula would be:

**—For Shirtings**

For 150 gal.
- 500 lb. U-F resin, such as Rhonite 610
- 6 lb. U-F resin partially polymerized, such as Aerotex 250
- 20 lb. catalyst, organic type

The resin is dissolved in a portion of the water and should go into solution easily at 120 to 140° F. If it does not dissolve easily, it is already partly polymerized and will not give a clear solution or satisfactory results. This condition results from improper storage conditions and is prevalent during the summer months.

If a clear solution is obtained without


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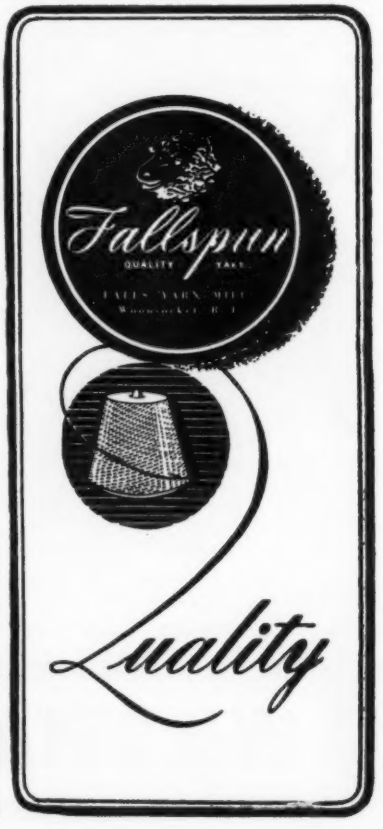

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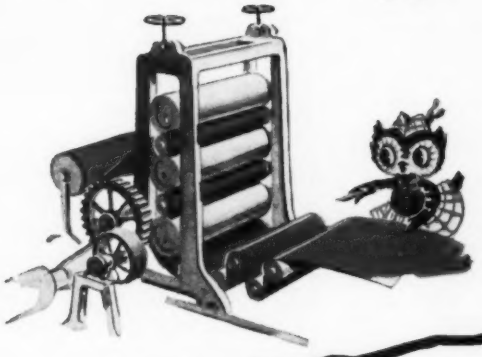

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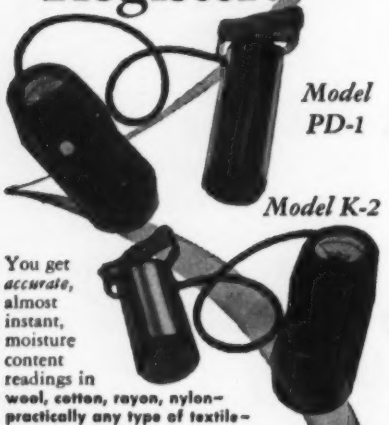

*Model PD-1*

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You get *accurate*, almost instant, moisture content readings in **wool, cotton, rayon, nylon—practically any type of textile**—when you use Moisture Register Model PD-1 or Model K-2.

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excessive heating, cool the mix down to 80° F. and add the syrup (250-type) resin and then add the catalyst.

(At this point it should be noted that consistent results can be obtained if the bath temperature is kept around 80° F. If temperature gets up over 100° F. for any length of time during the resin application, unsatisfactory results will be the penalty. The resin will start to polymerize in the bath, and the fabric will receive a surface coating. This result can happen before visible precipitation occurs; it is the cause of much puzzlement when variation in hand shows up in final inspection.)

**—For Slacks Goods**

Where heavier hands are wanted, the amount of syrup-type resins is increased. A satisfactory formula for the production of slacks goods on 2.10 yd. per lb., vat-dyed, all-viscose goods is:

For 150 gal.
500 lb. Rhonite 610
30 lb. Aerotex 250
20 lb. catalyst (organic)

In some cases it is desirable to add a softener directly to the resin bath, usually about 0.5% based on volume. This softener tends to reduce brittleness, since it increases plasticity of the resin during the entire operation.

**—For Suitings**

On acetate-and-viscose blends, which are widely used for suitings and sports trousers, the fabric itself has considerable bulk; so the amount of U-F resin paste is generally reduced. A fairly representative formula for this class of goods would be:

For 150 gal.
400 lb. Rhonite 610
35 lb. Aerotex 250
20 lb. catalyst (organic)

These blended fabrics will weigh from 1.75 yd. per lb. to about 1.50 yd. per lb. The most popular blends are 70% viscose with 30% acetate and 50-50 mixtures of these fibers. Cross-dyed or solid colors may be desired and, in the case of suitings, may carry a pattern or effect thread such as is often found in wool or worsted suitings.

## Formulas for Direct-Dyed Goods

Spun rayon dyed with aftertreated direct dyes have presented the finisher with a new set of problems. In most plants, the aftertreating is a part of the finishing operation, since these goods are best examined before finishing and before the dyes are fixed.

The fixation depends upon the use of copper-resin compounds in most cases. These compounds, in conjunction with the finishing resin, produce washfastness results that are next to vats.

**Use of Cuprofix**

Cuprofix, used in the finishing resin at the rate of 1 to 1.5% depending on shade, is very effective in improving washfastness. However, the effect on the resin bath, unless some care is taken, is drastic. The pH is lowered to 4.3 to 4.5, and no buffers that we know of may be added that do not affect the washfastness.

It is here that the jacketed pad and tanks that may be refrigerated are most


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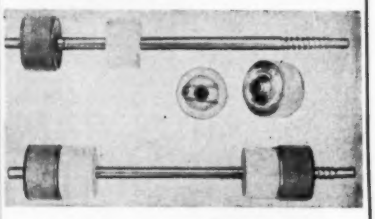

**TWO BOBBIN SPINDLE**

These Spindles are adjustable to the use of a long or short bobbin. Spacers of hard wood are self locking and removable.

We make these Spindles to your specifications so you can use two different length bobbins on the same spindle, on the same machine without changing the spindle.

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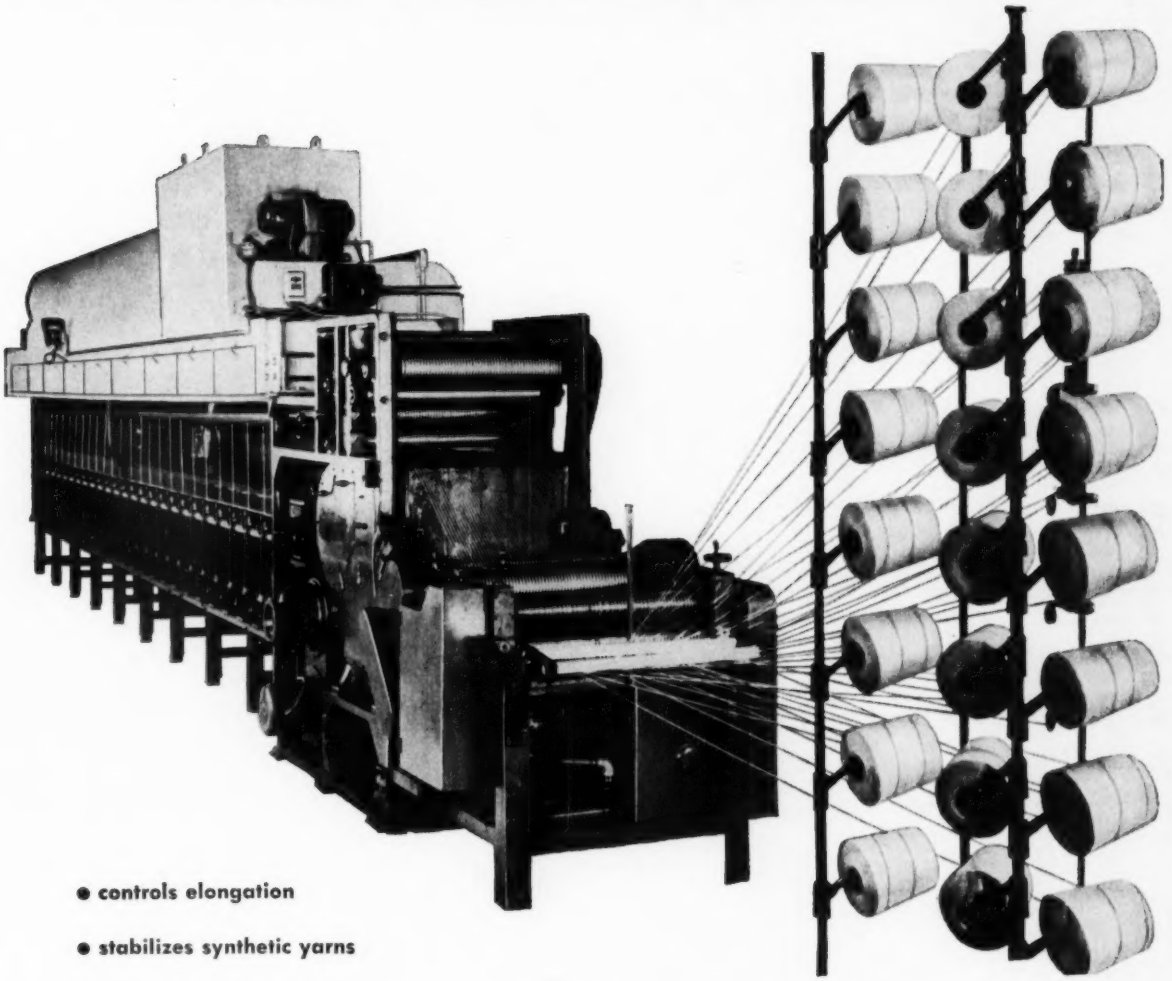
# KIDDE YARN PROCESSING MACHINE
## makes synthetic yarns useable industrially



- controls elongation
- stabilizes synthetic yarns
- controls residual shrinkage
- makes synthetics compatible with rubber and other materials by coating or impregnation

Kidde's amazing processing machine takes 50 ends of yarn from a creel, passes them through an impregnating bath, stretches them under controlled tension, oven-dries them and winds them in 50 uniform packages. It does all this continuously on a 3-shift basis! The result is a stronger, more stable synthetic yarn that's right for industrial use. To prove it, the Kidde yarn processing machine has a record of over 5 years of successful industrial use in making hose cord, tire cord, V-belts, etc. Write today for full information.

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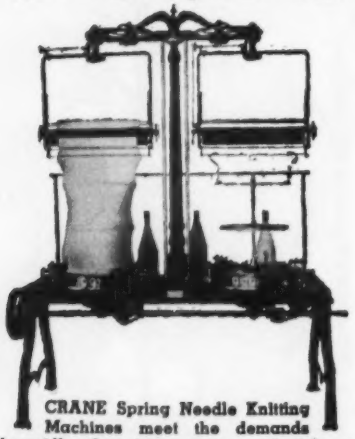

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valuable, since temperatures of 70 to 75° F. must be maintained if at all possible. The catalytic effect of the Cuprofix is rapid; and even while no signs of precipitation are evident, the finishing resin undergoes changes that affect the hand. For this reason, it is advisable to make small mixes of 50 gal. or so, although this practice is not always followed.

The aftertreating compound affects the hand even when all conditions are met, and allowance has to be made in the formula. The bulking and resiliency are greatly increased by Cuprofix, and for this reason the paste resins such as Rhonite 610 are usually cut 20% from formulas in which no Cuprofix is used. Likewise, the syrup resins have to be reduced materially, depending on the finish wanted.

**—For Shirtings**

A typical shirting finish for 2.10-yd.-per-lb. all-viscose goods is:

For 150 gal. (Shade—navy)
400 lb. Rhonite 610
18 lb. Cuprofix
No catalyst is needed.

**—For Slacks Goods**

Slacks finishes on lightweight goods of viscose can be obtained from the following:

For 150 gal. (Shade—navy)
400 lb. Rhonite 610
16 lb. Acrotex syrup 250
18 lb. Cuprofix

Deep maroons require more Cuprofix, and it has been found best to apply 1.5% of this material on a pad-looper range as a separate operation, followed by the usual finishing formula such as that suggested above for a navy.

The use of a wetting-out agent in the finishing bath is advisable, since the pretreatment with Cuprofix develops hydrophobic qualities in the fabric. Many conventional wetting-out agents are not suitable; the choice has to proceed by trial and error until one is found to be compatible with the Cuprofix.

**Use of G-67—**

Another product that has appeared more recently is G-67. While this product also has considerable effect on the finish, it is less apt to catalyze the resin too rapidly and tends to give some bulk without stiffening. For some reason it definitely affects the syrup resins, and their amounts have to be increased in the average formula to attain the hand desired.

It is possible to include as much as 4% of G-67 in finishing formulas where the shade demands it and still retain good working characteristics. Excepting maroon shades, 2% is generally sufficient.

**—In the Shirtings Formula**

A good working formula for a resilient shirting hand on 2.10-yd.-per-lb. all-viscose gabardine in a navy, gray, or brown shade could be:

For 150 gal.
400 lb. Rhonite 610
3 lb. Aerotex 250
24 lb. G-67

Since the G-67 is made up by boiling for several minutes in at least one-third

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**THE MAN WE MEAN IS A COMPOSITE of the editorial staff of this magazine. For, obviously, no one individual could ever accomplish such a vast business news job. It's the result of many qualified men of diversified and specialized talents.**

**AND, THERE'S ANOTHER SIDE TO THIS "COMPOSITE MAN," another complete news service which complements the editorial section of this magazine — the advertising pages. It's been said that in a business publication the editorial pages tell "how they do it" — "they" being all the industry's front line of innovators and improvers—and the advertising pages tell "with what." Each issue unfolds an industrial exposition before you — giving a ready panorama of up-to-date tools, materials, equipment.**

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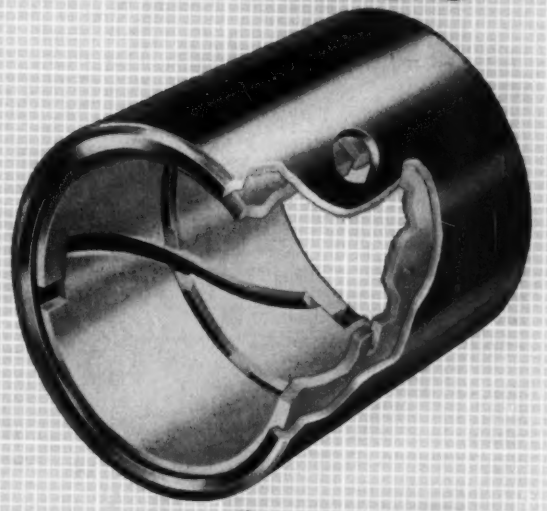

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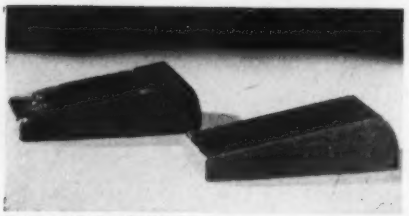
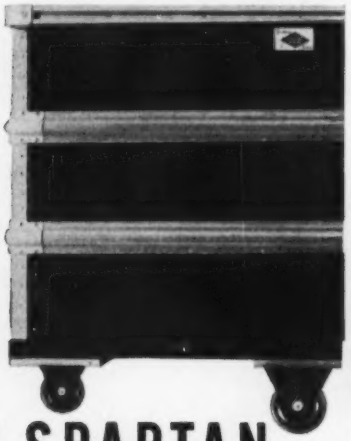


CELORON PARALLEL PLUGS

A canvas-based laminated plastic, made only by C-D-F, is used for molded parallel plugs that have high impact strength and are impervious to oil and water. The upper left plug was used for two years by a leading mill! Celoron does not require lubrication, never turns soft or spongy, lasts indefinitely. It does not fracture, chip, or delaminate. Write for sample.



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its weight of 83% acetic acid, the finishing bath needs no catalyst. In fact, organic catalysts affect the washfastness adversely.

**—In Resins for Gabardines**

For plenty of bulk on heavier viscose gabardines running up to 1.55 yd. per lb., a basic formula may be as follows:

For 150 gal.
- 500 lb. Rhonite 610
- 40 lb. Aerotex 250
- 24 lb. G-67
- 6 lb. Ampitol KZ (softener)

The softener is added here for plasticity and gives an effect that is difficult to obtain in subsequent softening operations.

**—Glyoxals for Whites**

White fabrics that require dimensional stability and crease resistance are not generally finished with U-F resins, since rayons retain chlorine in the form of chloramines and serious weakening of the goods can be expected during a hot-pressing operation such as is used in commercial laundries.

Whites, therefore, are generally finished with glyoxal, a di-aldehyde that has a similar effect on the cellulose molecule as formaldehyde but with less unpleasant application odors.

It is important that the padding be set up in such a way as to give at least 20 sec. saturation before squeezing out the excess material. This time interval can be arranged by a skying setup of stainless-steel rolls mounted over an auxiliary box ahead of the regular pad box.

Curing is done at somewhat lower temperatures—300° F. for 5 min.—and the goods must be wet down or moved immediately to the bleaching operation necessary to remove the yellow cast resulting from the glyoxal treatment. Goods may develop tenderness due to overcuring if not wet down.

Softeners are usually added in the final steps of the bleaching to improve the hand and insure good sewing qualities.

A formula that can be used for shirtings is as follows:

For 150 gal.
- 180 gal. glyoxal
- 15 gal. polyvinyl alcohol solution (50 lb. to 150 gal.)
- 15 lb. oxalic acid

Other methods for obtaining crease resistance and dimensional stability without the use of U-F resins are constantly being developed. They are mainly based on alkali-soluble cellulose, formaldehyde, or combinations of these and other ingredients.

In some cases their ability to modify the natural properties of viscose seems superior to the older resin treatments, and doubtless their use will increase as formulas applicable to the many styles of fabrics now on the market are worked out.

In the meantime, U-F resins, properly applied and handled throughout, cannot be matched for the supple, resilient, and clothy hand that has become the standard of comparison in the spun-rayon field.

---

# Questions AND Answers

## Watch Changes in Tension To Prevent False Stops

**Technical Editor:**

**How can we prevent false stops on a ring twister? (9613)**

1. Keep your supply package free of plucks. Plucks cause a momentary slackness that actuates the stop motion.

2. Check the tension on the yarn. Not enough tension weight, or trash between the disks, cause slack yarn and false stops.

3. Check the trip wire. Vibration will cause false stops if the trip wire is set too close to the knock-off cam.

4. Check traveler weight. An overlight traveler causes slack yarn and false stops on the upstroke of the ring rail.

5. Check the counterbalance weight on the auxiliary stop-motion lever on single-end twisting. If the weight is set too far out, the traveler tension will be overbalanced.

## Oddie-Radcliffe System Oils After the Blending

**Technical Editor:**

**What are the features of the Oddie-Radcliffe system of continuous woolen blending?**

The Oddie-Radcliffe system of continuous woolen blending is made in England by Spencer & Halstead Ltd. Each constituent in each batch is weighed, and this procedure insures accurate blending when a small amount of one color is used. An underground conveyor with a rising lattice moves the blend to the first hopper fed and on to the first opener. A fan and duct system carries the stock between the first opener and first centri-blender, second hopper feed and second centri-blender, and third hopper feed and second opener.

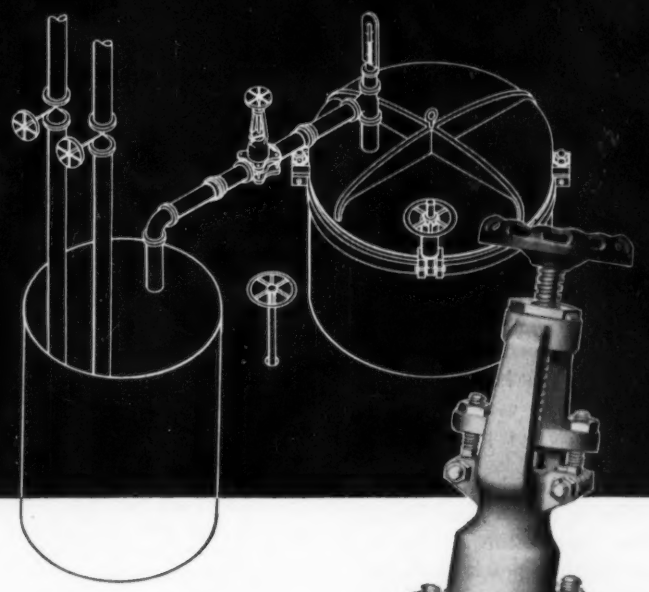
The stock is oiled after all the blending is done. This arrangement saves oil and improves the condition of the stock in the opener. The fan and duct system carries the blend to the card or storage bin.

It is said that individual colors can

# It's not what you Pay for Valves ...it's what they Cost you

## on Corrosive Solutions for example

(A Case History)

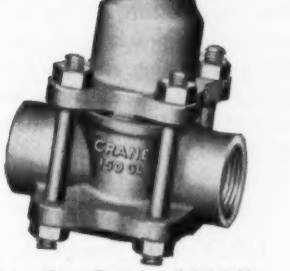


What you pay for valves is not the final criterion of value. Not when maintenance costs can quickly equal or exceed purchase price. And a valve that hinders production is no bargain at any price—no attraction to a thrifty buyer.

Take the case of Phoenix Dye Works in Chicago. Valves in acid dye lines on package dye machines were constantly sticking and leaking. Maintenance cost was excessive; production schedules lagged. Many types of valves and cocks were tried, but none lasted more than 2 months.

The problem was solved by installing Crane 18-8 Mo Plug Gate Valves. With more than 3 years' satisfactory service received, the user reports on these valves: No leakage . . . no maintenance expense . . . no sign of corrosion . . . operate like new.

Today, more than ever, you need greater assurance of quality in piping materials. You get it in Crane valves—the recognized standard of quality with thrifty buyers everywhere. Your big Crane Catalog offers complete selections for all needs. Your Crane Representative is always at your service.

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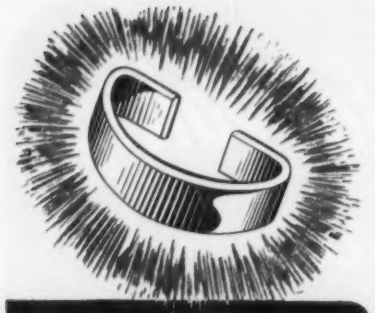

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be identified in an 18-color blend after the card and slubber processes.

## Supplying Fiber-Test Data Is Not General Practice

**Technical Editor:**

**We are still having trouble getting the character of cotton staple. Isn't the character supposed to be marked on the bale? (9616)**

It's true that cotton merchants and textile mills are testing cotton for the various fiber properties and are transacting cotton sales based on those characteristics to some extent. It is also true that many mills are using cotton-fiber tests as a guide in blending bales for their mix. But you may have overestimated the extent to which cotton-fiber properties are measured and identified on cotton bales. There is a trend in that direction, but it is not a general practice.

By far the major portion of the cotton crop is bought and sold on the basis of grade, staple length, and area of growth. As a practical matter, area of growth largely represents variety of cotton. TEXTILE WORLD's Cotton-Fiber Chart (p. 85) should be of considerable help to you in matching cottons of somewhat similar character.

There are two things you can do:

1. Get your cotton buyer to buy his cotton from a merchant who provides fiber-test data with his cotton.
2. Install a cotton-fiber testing program in your mill.

## Most Looms for Fire Hose Are Standard Equipment

**Technical Editor:**

**Would you examine this fire hose and tell us if it was woven on a standard loom? (9610)**

The linen fire hose in question was made on a circular loom of a special design and manufacture. However, most fire-hose looms are standard pieces of equipment, and there are several manufacturers of this equipment in the United States.

## Snake Warps Are Packaged With Home-Made Coiler Rig

**Technical Editor:**

**What machinery is necessary to package mop yarn in what is known as "snake warps"? Does it operate like the coiler on a card? (9609)**

Most assemblies for making snake warps are homemade and consist of a tube wheel from a card coiler head and the spectacle. The assembly is suspended from the ceiling, and the yarns are fed through this coiler and dropped on a turntable on the floor. This system gives the package a coiled effect, which enables the user of the warp to beam or make warps without the ends being tangled.

## Roll Setting on Old Frame Often Shorter Than Staple

**Technical Editor:**

**We noticed in an article on staple rayon in the September, 1952, issue of TEXTILE WORLD that some of the roll settings for spinning frames were actually less than the staple length of the rayon. Could you give us additional information about these settings? (9612)**

On the old three-roll conventional frame, the second top roll, which is self-weighted and usually called a Washburn roll, is placed between the two dead-weighted rolls. Since the Washburn roll is a self-weighted roll, a slip drafting actually occurs between this top roll and the metallic roll directly beneath it. Therefore it is possible to have a roll setting less than the actual staple length because of this slip-drafting characteristic.

## Cards Used for Kenaf Have Lag-Lined Cylinder

**Technical Editor:**

**Are pins or lags used in the processing of kenaf? (9614)**

Kenaf, a substitute for jute, is processed into yarn with the same method used for jute. The card has a cylinder lined with wooden lags that are set with sharply pointed pins at an angle to the surface.

## Fineness and Strength Are Found by Cotton Testing

**Technical Editor:**

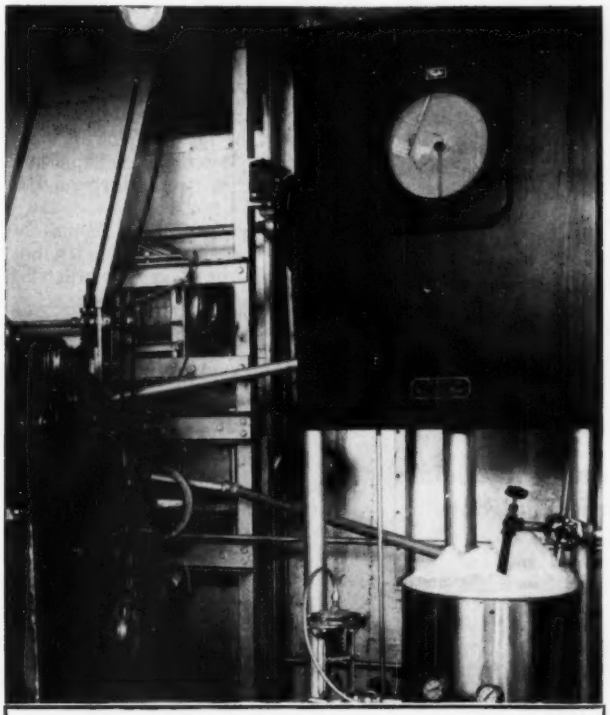
**Could you give me some information about fiber-testing programs carried out to supplement the hand-classing of cotton? (9606)**

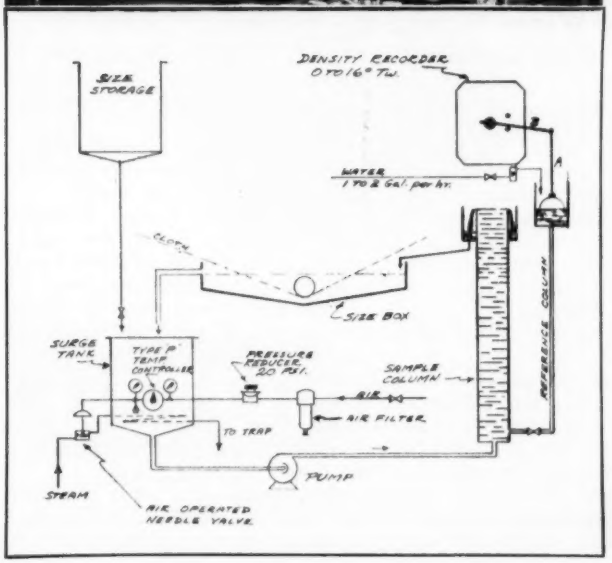
Several cotton merchants and mills are engaged in fiber-testing programs to ascertain cotton-fiber properties in addition to the historic properties of staple length and grade obtained by hand classers. These fiber tests are carried out in air-conditioned laboratories, located usually in the cotton merchant's warehouse and in the mill's testing laboratory.

These tests provide data on staple length, uniformity of staple length, fiber fineness, fiber strength, etc. By using these test data, cotton merchants are able to describe their cotton more accurately to buyers, and mills are

# Try this for SIZE!

## *Taylor Twaddle Recorder helps hold sized goods to proper weight . . . cuts down rejects!*






HOW can you tell accurately whether cotton knit goods are getting the right amount of size for efficient handling and still stay within the maximum limits set by your customers? By measuring the specific gravity of the sizing solution! This new Taylor Twaddle Recorder tells you *at a glance* whether goods are being properly sized—by giving you a recording on the direct-reading Twaddle scale.

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**If you want** automatic control, we can deliver this same system with a Taylor FULSCOPE* *Controller* which will give you (in addition to a chart record) continuous *automatic control* of the specific gravity of the size solution.

**Drawing at left** shows how this instrumentation could be applied in your mill. Picture above is from a well known knitting mill where this system is being operated with great success.

**If you'd like** more information on this system, call in your Taylor Field Engineer, or write Taylor Instrument Companies, Rochester, N. Y., and Toronto, Canada.

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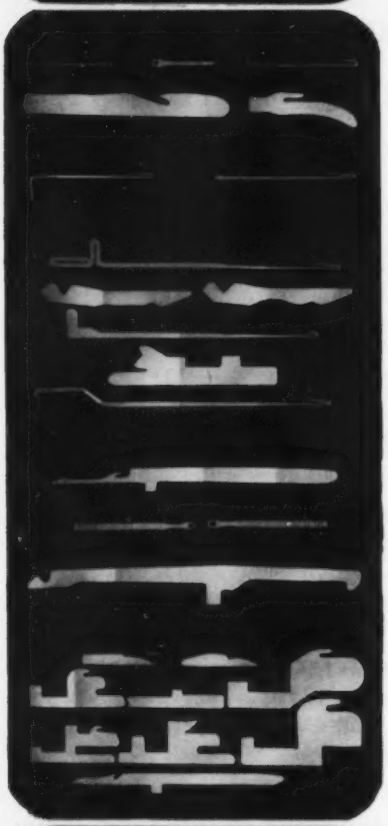

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NEW JERSEY

able to select cotton that more nearly conforms to standards they set up.

In actual mill practice, more attention is being paid to fiber fineness, as revealed by these tests, than to staple length.

## Proper Dyeing Prevents Color Change in Pleating

Technical Editor:

**We recently saw a nylon pleating machine that affected the color of light-pink and light-blue material but not navy blue or white. Is this to be expected of all nylon pleating machines? (9590)**

The discoloration of the materials during pleating is evidently due to the type of colors used.

Acetate colors are best for nylon so far as avoiding barré effects is concerned, but the choice of colors is very important if sublimation and color change are to be avoided.

You may be able to avoid the problem by dyeing a base shade in acid-type colors and shading to tone with selected acetate-type dyes of good fastness.

The type of machine on which your pleating is done should have no effect on the colors if the proper choice of dyes is made, provided, of course, that temperatures are controlled properly and each subsequent batch is treated at the same temperature and time.

## Fungicides and Bactericides Are Used in Humidifiers

Technical Editor:

**How are fungicides and bactericides used in the humidifiers in textile plants? (9578)**

Fungicides and bactericides are added to the water in the supply tank that feeds the humidifying system.

## Looms That Weave Nylon Must Be in Good Condition

Technical Editor:

**We are weaving nylon for the first time. Please give us some information on how to weave it. (9582)**

Nylon can be woven on looms that are in the proper mechanical condition to weave fine filament-rayon fabrics. Nylons cannot be run successfully on looms that have been making staple-fiber fabrics unless the looms are reconditioned.

To make nylon cloth on a rayon loom:

1. See that the take-up-roll cover is smooth and free from burrs. The take-up roll bearings should not have any lost motion but should not bind. Overhaul the complete take-up gear train.

2. Overhaul the harness motion. If a dobby is used, remove all worn parts and replace them with new ones. Divide the dobby accurately to prevent barré cloth.

If a cam-harness motion is used, remove lost motion from the cams, drive gears, harness sheaves, and harness straps. Set the harnesses closely to divide the shed.

3. Overhaul the let-off. Be sure there is no lost motion or binding. Take a lot of time on the let-off to prevent barré cloth, thick-and-thin places, and set marks.

4. Check the yielding reed. It must work freely without lost motion. Let the reed vibrate $\frac{1}{8}$ in.—no more.

If the loom doesn't have a yielding reed, take the lost motion out of the stationary reed.

5. Control the shuttle. Most nylon fabrics require little picker-stick power. Raise the lug straps and set the check straps to check the shuttle gently.

6. Clean the loom before the warp is tied on. Nylon yarn is expensive, and it's hard to wash dirty oil out of it.

The loom, generally, should be clean, and the shuttle boxes, lay, box leathers, shuttles, and transferring mechanisms should be spotlessly clean.

7. Handle the looms after they are warped as you would on any light-colored filament-rayon fabric.

Have the loomfixers and weavers keep their hands clean.

Don't let the looms stop long enough to make set marks.

Use close loom settings.

Keep the warp tension light.

Set the tension on the shuttles light, and check it often to keep it set light.

---

## Check Your Heating System

(*Continued from page 117*)

be used to reduce heating costs in certain textile plants. Their economy of operation depends on several conditions:

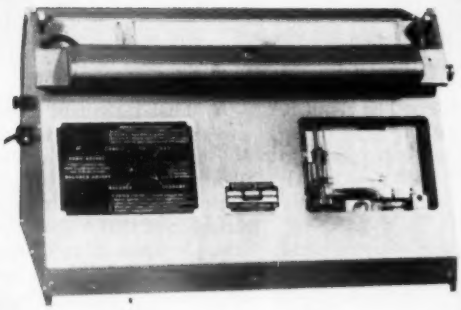
1. The difference in the temperature that must be overcome to extract sufficient heat from the water.

2. The number of hours of heating that is necessary during the year.

3. The amount of electricity that is available at a reasonable price.

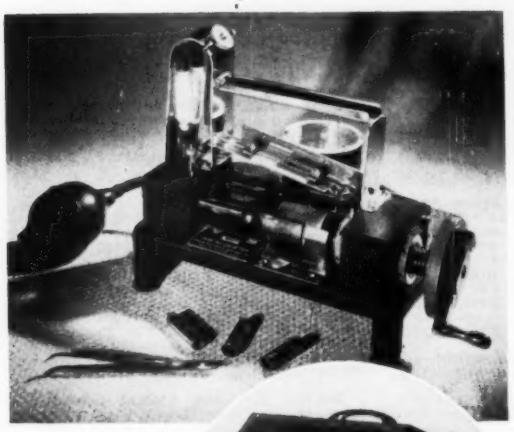
Heat pumps may be used in connection with back-pressure turbines or steam engines that generate power in a textile plant. The waste of heat in cooling steam from the power plant is converted into useful heat by the heat pump, and the heat is used in the air-conditioning system.

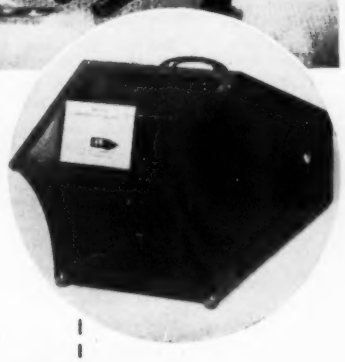
Diesel generating units are often used to drive a heat pump. The heat pump extracts water from a river, lake,



*Now*

# USTER Quality Control Starts with the Fiber





By an exclusive arrangement with the Special Instruments Laboratory, Inc., Uster Corporation now sells and services the Fibrograph and Arealometer. Uster now offers you fast, accurate quality control instruments for every process from raw cotton through finished yarn.

## Automatic Fibrograph

The new automatic Fibrograph quickly, accurately, and automatically measures fiber staple length—so necessary in buying, selling, or spinning cotton. Being automatic, the human element of error is eliminated and many more bales of cotton can be tested per day. The principle of this new instrument is the same as that of the semi-automatic Fibrograph which has been recognized and fully accepted by all testing laboratories.

## Arealometer (with Balance)

The Arealometer accurately measures *both fiber fineness and fiber maturity*—providing information which is essential in spinning quality yarns. The Arealometer requires no compressed air connections or other installation and can therefore be used anywhere in the mill. The Balance is a convenient accessory to the Arealometer for rapid weighing of small samples.

Fiber control is the first step to good spinning. Write for full information on these two fine instruments today.

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**REGARDLESS OF THE SIZE AND TYPE OF YOUR MACHINERY, LUBRIPLATE LUBRICANTS WILL IMPROVE ITS OPERATION AND REDUCE MAINTENANCE COSTS.**

or a subsoil well and also receives the cooling water that is returned by the heating system. The heating water leaves the heat pump and flows through the Diesel-cylinder spaces and is brought up to the required temperature for the heating system.

In one application, the Diesel engine drives a 45-kw. generator in addition to the heat pump. The quantity of heat received from the heat pump and the Diesel engine correspond to the heating value of 109 tons of oil. The Diesel engine, however, uses only 67 tons of oil.

The net saving per year on heat amounts to 42 tons of oil. In addition, the generator supplies 10,000 kwh. of electricity.

A study of the heating equipment of a textile plant and the installation of the proper equipment can result in fuel savings and a more efficiently operated heating system.

## Processing Synthetics

(Continued from page 141)

**pends upon the size of yarn to be made and upon the draft. How far can one go in drawing the roving on a mule or spinning frame?**

**A:** That statement is exactly right, and if a fiber is too slippery you cannot draft it as much; therefore, the roving will have to be made lighter. I cannot state a precise figure because the amount that a fiber can be drafted depends upon fiber cohesion, crimp, the finish or lubricant applied to a fiber, whether the fiber is highly static, and several other conditions. Most of the newer synthetic fibers are too young for us to know all the answers, but with viscose rayon we do know that we get the best spin and the best yarn with a draft of 1.3 to 1.4.

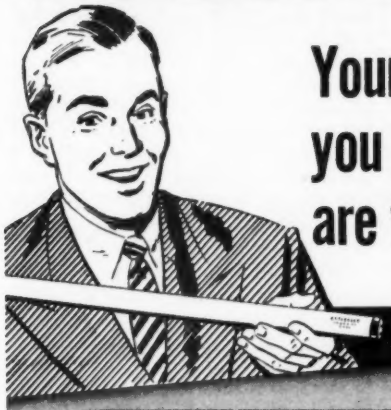
## Textile Calendar

**AATT, monthly meeting,** Builders Club, New York, Jan. 7, 1953.
**AATCC, Phila. Sect.,** Kugler's Restaurant, Philadelphia, Pa., Jan. 16, 1953.
**CATCC, Quebec Sect.,** McGill University, Montreal, Jan. 17, 1953.
**Plant Maintenance Show,** Public Auditorium, Cleveland, Ohio, Jan. 19 to 22, 1953.
**Pennsylvania Textile Executives Assn.,** annual banquet, Hotel Broadwood, Philadelphia, Pa., Jan. 24, 1953.
**National Cotton Council,** annual meeting, Dallas, Tex., Jan. 26 and 27, 1953.
**Air Conditioning Show,** International Heating and Ventilating Exposition; International Amphitheatre, Chicago, Ill.; Jan. 26 to 30, 1953.
**AATCC, New York Sect.,** Hotel Statler, New York, Jan. 30, 1953.
**AATT, annual one-day symposium** and exhibit, Hotel Statler, New York, Feb. 3, 1953.
**PTI Alumi Assn.,** mid-winter banquet, Warwick Hotel, Philadelphia, Pa., Feb. 6, 1953.
**AATCC, Mid-West Sect.,** Hotel Bismarck, Chicago, Ill., Feb. 14, 1953.
**National Cotton Council,** cotton research clinic, General Oglethorpe Hotel, Savannah, Ga., Feb. 18 to 20, 1953.
**CATCC, Quebec Sect.,** McGill University, Montreal, Feb. 21, 1953.
**AATCC, New York Sect.,** Hotel Statler, New York, Feb. 27, 1953.
**ASTM, spring meeting,** Detroit, Mich., March 2 to 6, 1953.
**AATT, monthly meeting,** Builders Club, New York, March 4, 1953.
**CATCC, Quebec Sect.,** McGill University, Montreal, March 21, 1953.
**ACMI, annual convention,** Palm Beach Biltmore Hotel, Palm Beach, Fla., March 26 to 28, 1953.
**AATT, monthly meeting,** Builders Club, New York, April 1, 1953.
**Carpet Fashion Bazaar,** Carpet Institute, New York, April 13 to 23, 1953.
**AATCC, New York Sect.,** Kohler's Swiss Chalet, Rochelle Park, N. J., April 17, 1953.
**CATCC, Quebec Sect.,** annual meeting and dinner, Mount Royal Hotel, Montreal, April 17 and 18, 1953.
**AATCC, Mid-West Sect.,** Netherland-Plaza Hotel, Cincinnati, Ohio, April 18, 1953.
**22nd AMA National Packaging Exposition,** Navy Pier, Chicago, Ill., April 20 to 24, 1953.
**Fiber Society, spring meeting,** New Orleans, La., April 22 and 23, 1953.
**Cotton Mfrs. Assn. of Georgia,** annual convention, Boca Raton Hotel, Boca Raton, Fla., April 23 to 25, 1953.
**Natl. Assn., of Hosiery Mfrs.,** annual convention and conference, Claridge Hotel, Atlantic City, N. J., April 27 and 28, 1953.
**Knitting Arts Exhibition,** Atlantic City Auditorium, Atlantic City, N. J., April 27 to May 1, 1953.
**British Industries Fair,** Castle Bromwich, Birmingham, England, April 27 to May 8, 1953.
**AATT, monthly meeting,** Builders Club, New York, May 6, 1953.
**Phi Psi Fraternity,** 50th annual convention, Penn-Sheraton Hotel, Philadelphia, Pa., May 7 to 9, 1953.
**Materials Handling Exposition,** Convention Hall, Philadelphia, Pa., May 18 to 22, 1953.
**AATCC, New York Sect.,** Kohler's Swiss Chalet, Rochelle Park, N. J., May 22, 1953.
**Textile Institute, annual conference,** Llandudno, North Wales, May 25 to 30, 1953.
**South Carolina Textile Mfrs. Assn.,** annual convention, Sea Island, Ga., May 28 to 30, 1953.
**Canadian International Trade Fair,** Exhibition Park, Toronto, Ont., Canada, June 1 to 12, 1953.
**AATT, monthly meeting,** Builders Club, New York, June 3, 1953.
**ASTM, annual meeting,** Atlantic City, N. J., June 29 to July 3, 1953.
**STA, annual convention,** Mayview Manor, Blowing Rock, N. C., July 18 to 20, 1953.
**International Exposition** of Fabrics, Fibers, Finishes, and Yarns, Waldorf-Astoria Hotel, New York, July 27 to 31, 1953.
**Fiber Society, fall meeting,** LTI, Lowell, Mass., Sept. 10 and 11, 1953.
**AATCC, national convention,** Conrad Hilton Hotel, Chicago, Ill., Sept. 17 to 19, 1953.
**Textile Machinery and Accessories Exhibition,** Belle Vue, Manchester, England, October 14 to 24, 1953.
**North Carolina Textile Mfrs. Assn.,** annual meeting, Carolina Hotel, Pinehurst, N. C., Oct. 15 and 16, 1953.

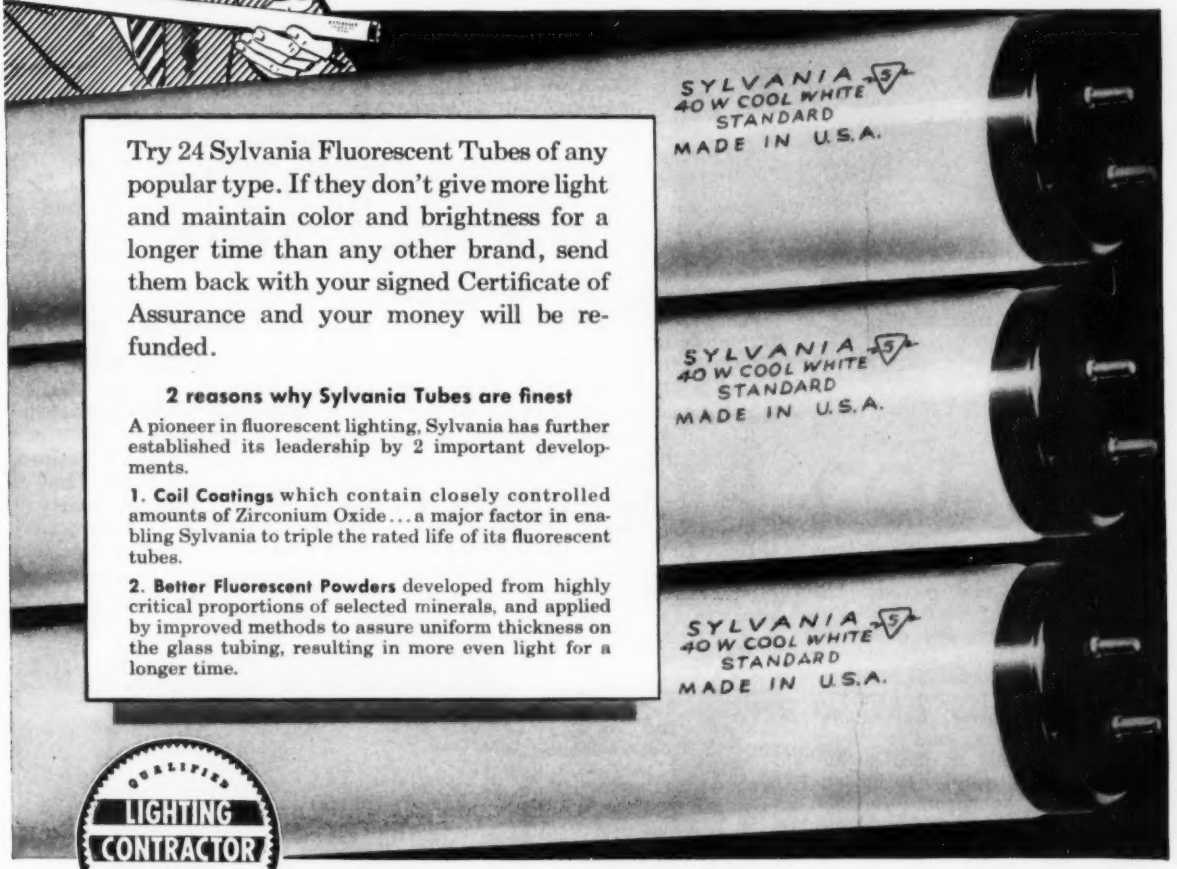
1954

**Knitting and Allied Crafts Exposition,** Grand Central Palace, New York, April, 1954.
**American Textile Machinery Exhibition,** sponsored by American Textile Machinery Association, Atlantic City Auditorium, Atlantic City, N. J., April 26 to May 1, 1954.

# YOUR MONEY BACK!



## Your money cheerfully refunded if you aren't convinced that Sylvania Tubes are the finest you've ever used!




Try 24 Sylvania Fluorescent Tubes of any popular type. If they don't give more light and maintain color and brightness for a longer time than any other brand, send them back with your signed Certificate of Assurance and your money will be refunded.

**2 reasons why Sylvania Tubes are finest**

A pioneer in fluorescent lighting, Sylvania has further established its leadership by 2 important developments.

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2. **Better Fluorescent Powders** developed from highly critical proportions of selected minerals, and applied by improved methods to assure uniform thickness on the glass tubing, resulting in more even light for a longer time.

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*Be sure to visit the SYLVANIA BOOTH (No. 901) at the PLANT MAINTENANCE SHOW Cleveland Public Auditorium Jan. 19th, 20th, 21st, and 22nd*

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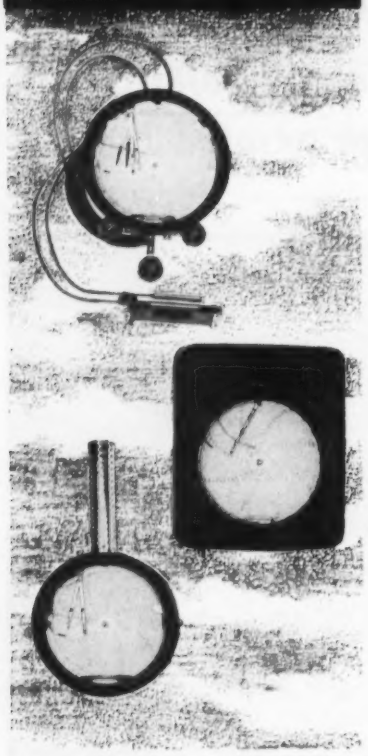

No matter what problems you face in obtaining suitable humidity measurements and records, the unique versatility of Foxboro Humidity Instrumentation offers an appropriate solution. Included are Recorders, Recorder-Controllers, Indicators, for relative humidity (hair and membrane), wet-and-dry bulb measurements, and for direct reading dewpoint or absolute humidity measurement (with the exclusive Dewcel element). Available in portable, close-coupled and long-distance types; with round or rectangular cases.

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HUMIDITY INSTRUMENTS

# News OF THE MONTH

## NEW MAN-MADE FIBER

A new synthetic fiber, a high-molecular-weight polyamide belonging to the class generally known as nylons, is planned for commercial production and marketing by Allied Chemical & Dye Corp., New York, N. Y. Allied's National Aniline Div. will erect and operate the new facilities and market the product.

Facilities will be located on a 600-acre site at the confluence of the James and Appomattox Rivers north of Hopewell, Va. Fiber production is planned for the new site, while raw-materials processing will be done near the present Hopewell plant of the company's Nitrogen Div.

Projected annual production at this time is 20-million lb., in both filament and staple form. Cost of the facilities is set at $23,000,000, 40% of which qualifies for rapid amortization under DPA arrangements.

Construction is getting under way. Lockwood Greene Engineers, Inc., New York, N. Y., is architect-engineer; Daniel Construction Co., Greenville, S. C., is general contractor. Allied's central engineering group is handling process design. J. J. Rieck is the Allied man in charge of the project.

## NEW ENGLAND MILLS

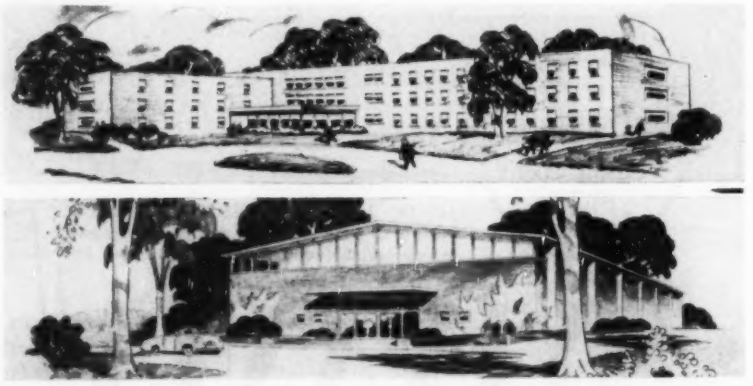
Woolen and worsted overseers share the responsibility with top management for seeing that lower-echelon employees "give a day's work for a day's pay," said Harold J. Walter, president of Bachmann Uxbridge Worsted Corp., Uxbridge, Mass., at the fall meeting of the Carders Guild in Boston. Taxes, power rates, etc., are not so important in the competitive struggle with the South as direct and indirect labor costs, the speaker held.

Workload comparisons between North and South were detailed. Unions should not protest in New England unless there is an overload of the worker fatiguewise, as is done in the South, Mr. Walter said. Advantages of New England as a manufacturing center were cited as (1) New England overseers are excellent, (2) there is good top management in New England, and (3) New England is close to both the Boston wool market and the New York distributors' market.

## PLANT MAINTENANCE SHOW

Some 7,000 different products in exhibits covering more than 100,000 sq. ft. of space are to be shown at the fourth Plant Maintenance Show and Conference to be held in Cleveland, Ohio, from the 19th to the 22nd of this month. The American Society of Mechanical Engineers and the Society for the Advancement of Management are jointly sponsoring the conference.

Eleven major industries, including

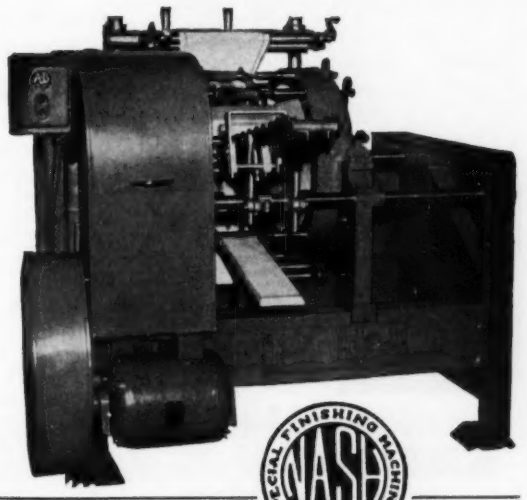


AN $800,000 DORMITORY for 150 students and a $400,000 gymnasium-auditorium are planned for Philadelphia Textile Institute in a campaign just launched by the PTI Foundation. The development-fund program also includes $100,000 for a new finishing-department pilot plant, $500,000 for equipment and plant modernization, $200,000 for administration and faculty needs, and $300,000 for endowment to give annual sustaining funds.

# SAVE the Expense of Hand Washing with the No. 89 Nash AUTOMATIC BOBBIN WASHER

## Washes flanged bobbins at 28 pieces per minute!

Textile mills throughout the country are finding the Nash No. 89 a time and money saver. It's a ten-spindle machine that does the entire washing and wiping operation automatically from start to finish. Eliminates the time and expense of hand washing. No dirt is left on the bobbin which would soil the yarn on the finished fabric. The cleaning solution used has a 140-degree flash point and is not toxic, assuring safe machine operation. The solution has no harmful effects on yarn, either natural or synthetic.



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We also manufacture Automatic Bobbin Finishers, Quill Polishers and special-purpose machinery.

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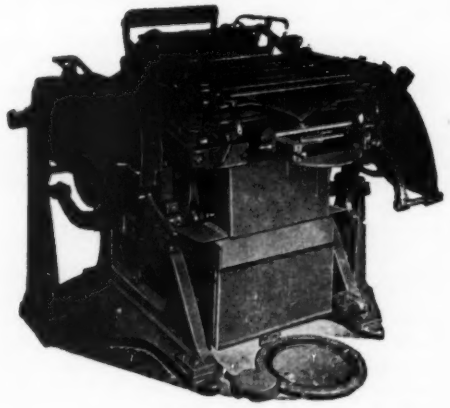
*WORLD-FAMOUS*

# SCHLUMBERGER COMB



*for French-Type Worsted Mills*

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*Also other worsted preparatory machinery*

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*In rubber coated fabrics,* pinholes caused by air bubbles are eliminated by adding a trace of Antifoam A to dipping or impregnating baths of natural or synthetic rubber latex. Besides improving the quality of the finished product, Antifoam A increases vat capacity and speeds production.

Heat-stable and practically inert physiologically, Antifoam A is generally effective at concentrations ranging from 1 to 200 ppm. It can be used as received or dispersed in a solvent. Where solvents are taboo, try one of our water dispersible emulsions of Antifoam A.

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# NEWS *of the Month*

textiles, will have discussion sessions of their own. Textile speakers and their subjects include F. L. Bradley of Forstmann Woolen Co. on "Dealing with Union Labor" and Harold Catlin of Bigelow-Sanford Carpet Co. on "Project Control."

## ELIZABETH'S CORONATION ROBE

Queen Elizabeth's coronation robes will be made of velvet woven from English silk spun at Lullingstone Castle in the county of Kent. This continues a tradition started by her parents, who wore English silk at their coronation in 1937. Their ceremonial robes, the Queen's satin dress, and the robes of the two Princesses at that time were all made with Lullingstone silk.

That silk is made in England at all is to the credit of one woman, Zoe, Lady Hart Dyke. She turned her castle over to silk worms and moved herself and her family into a tiny cottage nearby. Experts from Cyprus, Italy, and other countries weighed in with good advice, and the scene started in 1932. It survived the war years, English girls proved that they could reel silk, mulberry bushes were planted over 18 acres, and suitable heating arrangements made the larvae thrive.

The coming coronation will be the third time that the Queen has worn English silk, the second being when it was woven into her bridal train.

## KNITTED GLASS FABRIC

Knitted glass-fiber tubes that are later coated with a self-curing resin, for use in covering pipes to prevent rust and corrosion, are now being manufactured by Granoff Mfg. Co. in Central Falls, R. I. This is the first time glass fibers have been reported successfully knit. The company developed special attachments for its knitting machines to handle the special looping problems involved.

## NYLON-HOSIERY VARIATIONS

Full-fashioned hosiery manufacturers can now virtually eliminate length variations from stocking to stocking, as well as save on nylon yarn and reduce snags from extra handling, according to a report from the British Hosiery Research Assn. Details of the process are being kept "secret" to prevent "pirating" by overseas competitors and U. K. firms that did not help in the research.

As there are often 2,000 courses knit in each fine-gauge British stocking, an error of just 0.001 in. in the courses-per-inch adjustment can mean a stocking 2 in. too long or too short. The new technique sets the machine to a 0.0001 accuracy and incorporates a way to measure the length of the stocking while it is being knit.

**WEAVING SAMPLER containing nine different-colored sample spools of Cellucord, a plasticized paper yarn for use as a backing for rugs or in other consumer products, was recently offered mills by Cellucord Corp., New York, N. Y. Tensile strength of the yarn, depending on its number, ranges from 6½ to 200 lb.**

## TEXTILE TERMS DISCUSSED

Differences existing between U. S. and British textile terminology are said to bother readers of textile journals written in the English language, and recently Committee D-13 of the A.S.T.M. reported a discussion of the subject by the International Standards Organization. Inadequate textile definitions were also on the agenda.

Twenty-four terms were reviewed, with such differences as weft vs. filling, cord vs. cabled yarn, load-elongation vs. stress-strain curves, and commercial vs. standard regain being discussed pro and con. No changes in terms or definitions were agreed on.

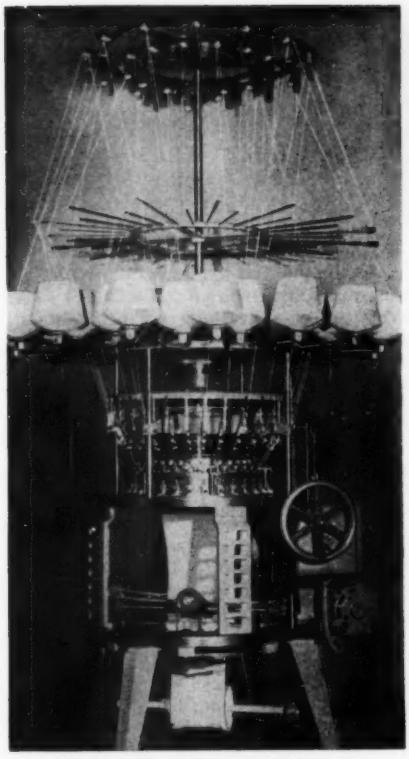
Suggestions for a new class name for all kinds of man-made fibers received so far include Manfiber, Catenon, Arton, Facton, and Homon. None was deemed to have sufficient appeal.

## NO MORE MOTH HOLES

DDT applied by a process developed by the Quartermaster Corps. will protect stored woolens from fabric pest damage for as long as five years.

Treated uniform cloth was given a final examination at the U. S. Dept. of Agriculture's Savannah, Ga., laboratory recently, and the fabrics showed no evidence of damage even though fabric pests had been placed on the cloth each year for five years. Fifty thousand carpet beetles and 25,000 clothes moths were used in the tests.

A 5% DDT-oil solution applied in



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Manufacturers and knitters all over the world buy and specify Wesco. They know from experience Wesco stop motions get the best out of the machines they build and buy.

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*Another of a Series of Knitting Machine Builders. Others to follow*

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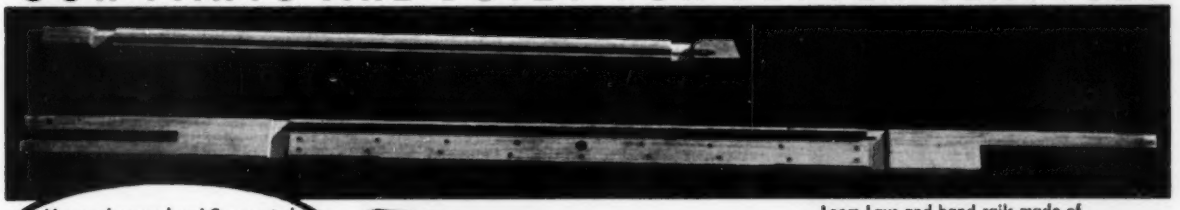
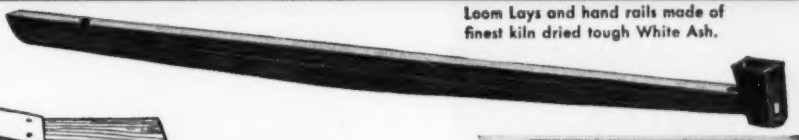


No wood screws here! Corrugated hickory reinforcing peg guaranteed to eliminate end splitting and thread catching.

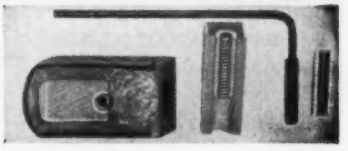


Loom Lays and hand rails made of finest kiln dried tough White Ash.

Native Hickory Shuttle Binder

Loom Jack Stick (White Ash)

Serrated Lug Block (Dogwood or Ash)



Hard Maple Compensating Block with oil impregnated wood bushing.

These seasoned hardwood loom parts are designed and manufactured for long and dependable service. Our patented interlocking metal picker holder (shown above) locks picker to stick with a bulldog grip and can be easily adjusted by removing allen-head set screw. We keep adequate supplies of all parts shown ready for prompt shipment. Order today.

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# NEWS *of the Month*

the home with a spray gun, though not as thorough as the DDT-impregnation method developed by the Army, is said to provide similarly good protection.

## NEW DU PONT TEXTILE LAB

A new building, planned for textile research now being done in four scattered locations for the textile-fibers department of Du Pont, will be located on a 160-acre plot across from the Ferris School for Boys in Wilmington, Del. Preparation of the site has began.

Offices and laboratory will be in a two-story section 282 ft. long and 62 ft. wide across the top of the T-shaped structure. Laboratory equipment in 17 rooms, textile areas, service, and operating areas will be located in a single-story section 202 ft. wide, extending 298 ft. to form the bottom of the T.

Director of the new unit is Dr. Linton G. Ray, Jr. It is hoped the facilities will be ready for use by next year.

## CRINKLED-YARN PATENT

Scott & Williams, Inc., Laconia, N. H., will grant licenses under a patent issued June 24, 1952, for the manufacture of sheer stockings from crinkled yarn. A nonexclusive license is offered to throwsters at a moderate royalty to prepare the crinkled yarn and supply it to hosiery mills for the manufacture of stockings covered by the patent.

Mills procuring crinkled yarn from licensed throwsters are authorized to use such yarn in the manufacture of sheer stockings without payment of any further royalties, on their agreement to mark such stockings, or packages containing them, with the patent marking, "Pat. 2,601,451," and to keep adequate records thereon.

Hosiery mills who throw their own yarn may obtain a license direct from Scott & Williams on a royalty rate equivalent to that paid by licensed throwsters.

## COLOR FASTNESS TESTS

Agreement has been reached by the International Organization for Standardization on the general principles of colorfastness tests and on specific test procedures. Test methods considered at the recent three-day session in New York were of two types—those pertaining to colorfastness-to-processing treatments and those pertaining to fastness-to-use conditions.

In the former group, test procedures for fastness to each of the following agencies were agreed upon: water, water spotting, sea water, rubbing, acid spotting, alkali spotting, carbonizing, peroxide bleaching, potting, mercerizing, stoving, soda boiling, chlorination, chrome and metals in dye baths, and hypochlorite bleaching.

Use tests considered included fastness to such items as perspiration, light, cross-dyeing, and washing.

Completion of the standards and final agreement by all nations concerned should occur within a year, according to Dr. William B. Appel, chairman.

## MACY'S TALKS TEXTILES

Retailers want three things from the textile industry, according to Norman Tarnoff, vice president of Macy's New York. They are better labeling, stabilized prices, and an advertising program geared to educating the consumer.

Regarding labeling, customers simply want assurance that the textiles they buy will not shrink or stretch unduly; that they will satisfactorily withstand exposure to sun, atmosphere, and perspiration; and that they can be washed or dry cleaned.

Regarding prices, while the industry's price structure can probably never be completely stable, there should be some lesser degree of feast or famine when one can "make a killing" or "take a beating," depending on the market.

Regarding advertising, a consumer-education story on fabric performance should be put across that cannot be told on a mere label. The consumer needs and wants to know, Mr. Tarnoff concluded.

## ROYALTY-FREE PRESETTING

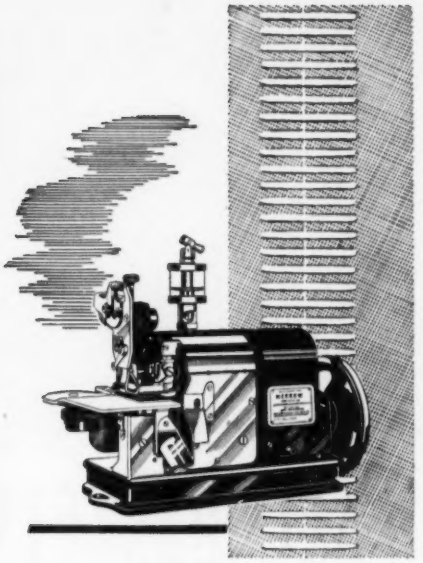
Licenses to preset acetate tricot fabrics by the method and apparatus developed by American Viscose Corp. (TW, April '52, p. 112) are now royalty-free, licensees have been advised. Licenses will still be required to make and use the machine, however. These licenses will be issued through the corporation's Textile Research Dept. at Marcus Hook, Pa., as in the past.

The presetting machine eliminates the expensive tacking and untacking of the selvages that is otherwise necessary to prevent the setting of the curl in the edges during dyeing. It results in straight course lines, prevents "crow's feet" and crease marks, con-

(*Continued on page 276*)

# *MERROW BUTTED SEAMS for efficiency in finishing*

The Merrow Butted Seaming Machine permits joining cuts of piece goods in process finishing. The Merrow Butted Seam opens out flat under the tension of processing, allowing the joined pieces to assume an end-to-end relation. Waste of cloth is reduced to a minimum in finishing operations such as shearing, napping, printing, coating, etc. Because the Butted Seam has little bulk, it will calender without damage to rolls or bearings. The stitch "gives" with the material—will not shrink or reduce the width of the piece goods.



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## NEWS ABOUT Suppliers

### Equipment Suppliers

**Atlantic Steel Co.**, Atlanta, Ga., has opened a new combined warehouse and office building in Atlanta. A new 60-ton electric furnace has been placed in operation in the plant. The company is now equipped to supply the textile field with stainless steels along with its regular steels.

**The Baker-Raulang Co., Baker Industrial Truck Div.**, Cleveland 2, Ohio, has appointed Baker Industrial Truck Co. of Wisconsin as exclusive distributor for Baker industrial trucks and cranes in Milwaukee and eastern Wisconsin. Walter J. Dahl is owner of the new distributorship, which has offices at 231 W. Wisconsin Ave., Milwaukee. Industry Services, Inc., 332 S. Diamond St., New Orleans, La., has been appointed distributor in the Delta States area. Polk Hebert is owner of the distributorship, which will represent Baker in Louisiana and southern Mississippi.

**Beckman Instruments, Inc.**, South Pasadena, Calif., has started construction on a new 20,000-sq. ft. building in Mountainside, N. J., to be used as Eastern sales and service offices for the parent company and as an Eastern manufacturing facility for the Beckman subsidiary, Helipot Corp., manufacturer of helical potentiometers.

**Clayton Mfg. Co.**, El Monte Calif., has named H. M. Kirkby sales promotion manager of the Steam Generator Div. Mr. Kirkby will make his headquarters at 638 N. Albany Ave., Chicago 12, Ill.

**Chase Bag Co.**, Chicago, Ill., has appointed Bud E. Simonton superintendent of its Toledo factory. John F. Hilarski, assistant superintendent, will assist Mr. Simonton and continue to be responsible for the textile-bag operation at Toledo.

**ARTHUR W. KURZ, JR., has been made vice president in charge of engineering of Hunt Loom & Machine Works, Inc., Greenville, S. C.**

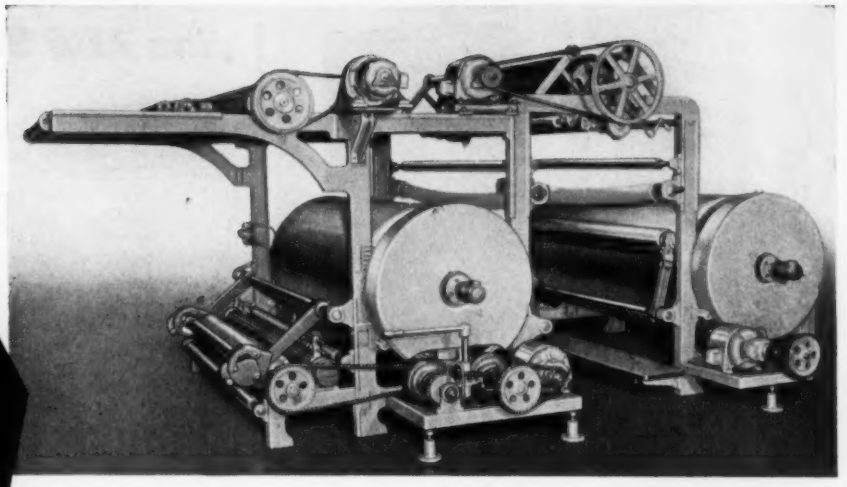
**Chiksan Co.**, Brea, Calif., has established a wholly-owned Canadian subsidiary that will operate under the name of Chiksan of Canada Ltd. Over nine acres of property have been purchased by Chiksan in Brantford, Ont., as a site for a new plant to manufacture Chiksan ball-bearing swivel joints.

**Clark Equipment Co.**, Battle Creek, Mich., has appointed A. O. Williams director of engineering, Industrial Truck Div. The division has appointed Lucas Equipment Co., Columbia, S. C., an authorized dealer. Towne Industrial Equipment Co., Inc., Dallas, Tex., has been named dealer for 129 counties in Texas.

**Conoflow Corp.**, Philadelphia, Pa., has appointed George Chipley as its representative in Wisconsin. Mr. Chipley will supply the eastern portion of the state from his headquarters in Milwaukee.

**Container Corp. of America**, Chicago, Ill., has appointed Henry G. Van der Eb, formerly assistant to Ira C. Keller, executive vice president, as general manager of the Philadelphia Folding Carton plant.

**Greater Production and Maintained Quality with this new GESSNER WET STEAMER**



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# *News About* SUPPLIERS (Continued)

**The Foxboro Co.**, Foxboro, Mass., has acquired new factory facilities for the assembly of control valves at Dallas, Texas. The new quarters practically double the area devoted to valve assembly and warehousing and will facilitate rapid delivery and service to industries throughout the South and Southwest.

**The Lunkenheimer Co.**, Cincinnati, Ohio, has established a new central district, headed by Elmer R. Tieberman, with headquarters at Dallas, Tex. Marshall N. Stickel, with headquarters at Houston, Tex., will have charge of northeast and southeast Texas and southwestern Louisiana. Joseph A. Birkhead will have charge of the southwestern Texas territory, with headquarters at Houston. D. R. Davis will have charge of the Oklahoma, Kansas, and western Missouri territory, with headquarters at Tulsa, Okla. William A. Boles, with headquarters at Baton Rouge, La., will direct the southeastern and northern Louisiana, southern Mississippi, and southwestern Arkansas territory. Byron P. Roland has been appointed representative in charge of the west Texas and New Mexico territory, with headquarters at Midland, Tex.

**Lewis-Shepard**, Watertown, Mass., is increasing by 50% its tool-room and machine-shop capacities. The construction is now in the final stages. The company recently announced that Müssens Canada Ltd., Montreal, Canada, has been appointed to handle its line in Canada.

**F. A. Lazenby & Co.**, Baltimore, Md., which is now owned by Ray V. Watson, president, has expanded manufacturing facilities and now offers Micarta gears made to order in specification and shipped the same day the order is received. Olney R. Payne is still in charge of the company's textile division.

**Minneapolis-Honeywell Regulator Co., Industrial Div.**, Philadelphia, Pa., has appointed Wilson R. Coffman industrial manager of the Wichita branch office. James E. Vanderveld has been appointed industrial sales manager of the Portland, Me., office, and Fred B. Akerson has been named industrial manager of the Portland, Ore., regional office.

**JOHN H. HENNESSEY has joined Berkshire Color and Chemical Co., Delawanna, N. J., as vice president. Mr. Hennessey recently left General Dyestuff Corp., where he and D. F. Marnon developed the Marhen principle of vat dyeing.**

**Pittsburgh Corning Corp.**, Pittsburgh, Pa., has appointed A. I. Holmes manager of Foamglas building insulation sales. Howard G. Jones has been made district manager of a district sales office recently opened in Kansas City, Mo. N. Glascock has been made sales representative in the Washington, Baltimore, Norfolk, and Richmond areas. W. Grimm and R. W. Henry have been made sales representatives in the New York district office.

**Pyrene Mfg. Co.**, Newark, N. J., has elected Solomon R. Baker, of Worcester, Mass., and Beverly Hills, Calif., president of the company. Pyro, Inc., of which Mr. Baker is also president, purchased a majority stock interest in the company a few months ago.

**Reliance Electric & Engineering Co.**, Cleveland, Ohio, has announced three changes in its sales organization. William C. McConnell, sales engineer operating out of the company's Detroit, Mich., office for the past several years, and previously assigned to the company's Pittsburgh, Pa., and Charleston, W. Va., territories, has been moved to Cleveland to head up Reliance a.c. motor sales. Robert B. Reed, Reliance sales engineer in Birmingham, Ala., for the past three

## *News About* **SUPPLIERS** (Continued)

years, has been transferred to Detroit to take over Mr. McConnell's former sales engineering duties. Rex T. Willard of Reliance's Atlanta, Ga., sales office, has replaced Mr. Reed in the Birmingham area.

**Rodney Hunt Machine Co.**, Orange, Mass., has announced that B. M. Jones recently resigned his position with the firm. He was manager of the Textile Machinery Div. for several years and more recently held the position of general sales manager.

**Synthane Corp.**, Oaks, Pa., has added a two-story brick wing to its plant. The structure provides an additional 18,000 sq. ft. of floor space and marks the eleventh major plant expansion since the original factory was built in 1929. A major portion of the main floor houses the company's textile-products division, which makes laminated bobbins and other textile-production equipment.

**Trabon Engineering Corp.**, Cleveland, Ohio, has appointed J. G. Baldwin regional sales representative in Goergia for the sales of the company's centralized oil and grease lubrication systems and its line of accessories.

**Warren Steam Pump, Inc.**, Warren, Mass., manufacturers

**E. KENT SWIFT, JR., has been appointed director of research of Whitin Machine Works, Whitinsville, Mass.**

of centrifugal, reciprocating and rotary pumps, has announced the appointment of J. F. Murray Co., Baltimore, Md., as representatives for the Baltimore area. This territory includes most of Maryland and sections of Virginia and West Virginia.

**Wofford Oil Co.**, Atlanta, Ga., has announced that William M. Elan and Joe M. Cooper joined its sales force in the capacity of industrial sales representatives. Mr. Cooper was formerly overseer of weaving at Clinton Cotton Mills, Clinton, S. C. Mr. Elam was formerly employed as a foreman at the Clark Thread Co., Albany, Ga.

### Chemical & Yarn Suppliers

**American Viscose Corp.**, Philadelphia, Pa., has transferred Joseph L. Hunter from Filatex production at Roanoke, Va., to Filatex sales at Charlotte, N. C. Mr. Hunter will be associated with H. O. Shuptrine in calling on the Southern hosiery trade.

**Anheuser Busch Co., Inc.**, St. Louis, Mo., has appointed Tate M. Robertson, Jr., sales manager of the Corn Products Dept.

**American Cyanamid Co., Calco Chemical Div.**, Bound Brook, N. J., has named L. A. Melsheimer manager of technical promotion for the Pigment Dept. Mr. Melsheimer was in charge of the department's technical-service laboratory before the new service unit was created.

**Bersworth Chemical Co.**, Framingham, Mass., has announced that the price of Versene would be reduced by approximately 10%. The reduction carries over to Versene FE3 and covers these two products in liquid, powder, and bead form.

**Interchemical Corp.**, New York, N. Y., has announced that Alfred Russell, formerly with the plastics department of Deering Milliken Co., Inc., has joined the sales organization of the Cotan Corp., a subsidiary of Interchemical, in Newark, N. J.

**Celanese Corp. of America**, New York, N. Y., has announced that E. W. Best has been made sales manager of acetate filament yarn, Textile Div. He succeeds J. Guyton


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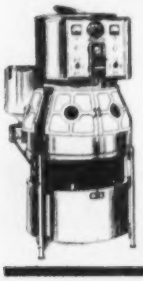

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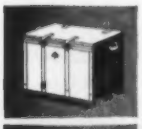

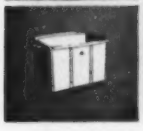

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## *News About* SUPPLIERS (Continued)

Boston, who was recently named general sales manager of the division. W. D. Clark, Jr., was named district sales manager of the Southern District, Textile Div., replacing Mr. Best. K. C. Loughlin, vice president of Celanese, was named general manager of the textile division with full responsibility for management of the textile activities of the company. Dr. R. T. Armstrong, associate director of the Summit, N. J., research laboratories, was promoted to the new position of technical director of the division. G. W. Seymour, vice president, was named to the newly established corporation post of coordinator of process and technical control. Dr. B. B. Allen has been appointed manager of the Summit research laboratories.

**Chemstrand Corp.**, Decatur, Ala., has appointed Dr. George B. Hughey, Dr. Kenneth Johnson, Paul D. Emerson, George Kazan, Jr., and Michael Kwasin to supervisory positions at the nylon manufacturing and process plant now under construction at Pensacola, Fla.

**Crown Chemical Corp.**, Providence, R. I., has appointed Fred C. Grant to the post of general sales manager. Prior to joining Crown, Mr. Grant was associated with General Dyestuff Corp. for many years.

**Dexter Chemical Corp.**, New York, has announced that new facilities to double its present production capacity are scheduled for next year. Ernest Welles, former group leader with Foster D. Snell, Inc., chemical consultants, has joined the Dexter laboratory as a research chemist.

**E. F. Drew & Co.**, New York, N. Y., has named Allen R. Wirth technical demonstrator in its sales dept. Mr. Wirth was formerly research chemist with Goodall-Sanford, Inc.

**General Dyestuff Corp.**, New York, N. Y., has named Larry Thompson, formerly head of the mixed fiber department, to be technical manager of the newly formed cotton section. In this section will be Tom Walsh, recently appointed head of the vat department to succeed Jack Hennessey, resigned;

**HAROLD C. WHITTEMORE, JR., has been made vice president of Warwick Chemical Co., Div. of Sun Chemical Corp., Long Island City, N. Y.**

Bert Celentano, head of the naphtol department; Ernie Taylor, head of the direct and sulfur departments; and Ulrich Hutten, head of the mixed fiber department.

**Glass Fibers, Inc.**, Toledo, Ohio, has joined the Industrial Mineral Fiber Institute. The announcement was made jointly by company officials and by Frank Christenson, president of the Institute, whose headquarters offices are at 441 Lexington Ave., New York, N. Y.

**Glyco Products Co., Inc.**, Brooklyn, N. Y., has promoted Dr. Herbert Fineberg, chief chemist of the company since 1948, to the position of director of research.

**The B. F. Goodrich Co.**, Akron, Ohio, has signed a long-term lease for a new one-story brick-and-steel warehouse building at High Point, N. C. The warehouse unit will be used as a distribution point for covered elastic yarn and Koroseal upholstery materials. The building will be completed in early March.

**Interchemical Corp., Textile Colors Div.**, Hawthorne, N. J., has named Henry A. Wells, formerly assistant service manager, technical representative in the Southern sales district with headquarters in Rock Hill, S. C.

**Metlon Corp.**, New York, N. Y., has appointed Edgar W. Dunham, Jr., metropolitan divisional sales manager of the

## *News About* **SUPPLIERS** (Continued)

firm. Mr. Dunham was formerly with Burlington Mills for six years, where he was in charge of development in the ribbon division.

**Pittsburgh Coke & Chemical Co.**, Pittsburgh, Pa., has appointed Ernest O. Ohsol director of chemical engineering. Dr. Ohsol will be responsible for economic and engineering evaluations of major chemical projects and will supervise development of process design and specifications.

**Reichhold Chemicals, Inc.**, New York, N. Y., has named Robert Gow sales manager of the firm's newly created Textile Div., with offices at Charlotte, N. C. Prior to joining the Reichhold organization, Mr. Gow was engaged in sales development of synthetic resins for textile finishing and sizing with Monsanto Chemical Co. for seven years.

**Southern Dyestuff Corp.**, Charlotte, N. C., has started a $250,000 expansion program at its plant at Sodyeco near Charlotte. The company plans two factory buildings and a research and development center to be completed early in 1953.

**CARLYLE G. CALDWELL has been made assistant vice president of National Starch Products, Inc., New York, N. Y.**

**Southern Latex Corp.**, Austell, Ga., has appointed Wilfred J. Mohr manufacturing manager. He will be in charge of the laboratory and plant.

**Tennessee Eastman Co.**, Kingsport, Tenn., has announced that its colorfast Chromspun acetate fiber is now available in staple as well as continuous-filament form. The staple is offered in nine colors. It is currently produced in 3 and 5 den., but other deniers can be made upon request.

### Other Services

**American Chemical Society**, New York, N. Y., has announced that Dr. Kyle Ward, Jr., head of the cellulose group at the Institute of Paper Chemistry, Appleton, Wis., has been elected chairman of the American Chemical Society's Division of Cellulose Chemistry for 1953. He succeeds Dr. Joseph L. McCarthy, head of the department of chemistry and chemical engineering at the University of Washington, Seattle.

**Lowell Textile Institute**, Lowell, Mass., has announced the retirement of Professor Gilbert R. Merrill from his duties as head of the Department of Cotton Yarns and Knitting. In making the announcement, President Martin J. Lydon stated that Professor Merrill will continue to teach his cotton courses and will serve the department in an advisory capacity. Assistant Professor John A. Goodwin has been named acting head of the department. Basil G. Skalkeas has been made director of research.

**New Bedford Textile Institute**, New Bedford, Mass., has elected Professor John E. Foster president of the institute. He succeeds President George Walker, who retired after 16 years as head of the school.

**Roth & Strong, Inc.**, Boston, Mass., has announced that two new consultants have joined the firm: Dorian Shainin, former chief inspector of Hamilton Standard Div., United Aircraft Corp.; and Franklin E. Satterthwaite, Ph. D., who came to the firm from General Electric Co. At GE, Mr. Satterthwaite served in the dual capacity role of quality control engineer and statistical consultant.

**Werner Textile Consultants—P.O.M. Co.**, New York, N. Y., has organized a three-man executive committee and a seven-man planning committee designed to more effectively pool and use its engineering know-how.


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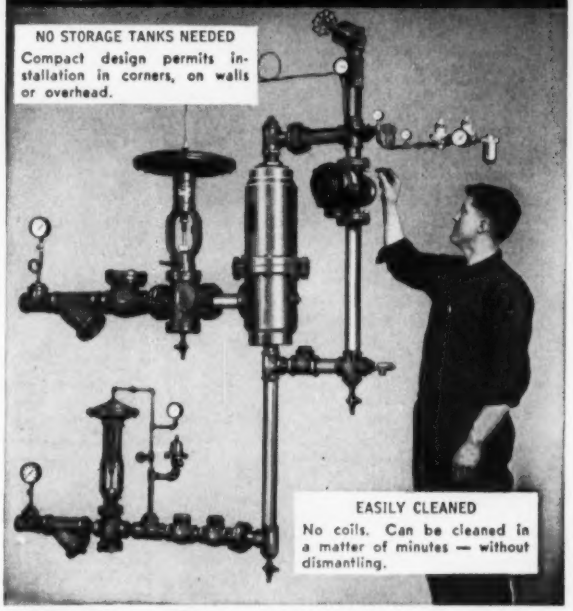
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ORGANIZATION ANALYSIS PERSONNEL APPRAISAL

These services will be under the direction of Mr. Peter M. Fekula now affiliated with Barnes Textile Associates, Inc. They will complement our established consulting activities in the fields of general engineering, industrial engineering, cost and quality control, materials handling and industrial relations.

Mr. Fekula has had broad experience in a variety of industries in both consulting and operating capacities. Recently he completed an outstanding project for a well-known textile company which brought about close coordination of production and sales. He has been able to apply to textiles many of the principles which have proved so successful in the automotive and aircraft industries.

We will be pleased to give further information about the services rendered by our new Peter M. Fekula Division, as well as by our other departments.

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# NEWS ABOUT Mills

## Cotton Mills

**Bemis Bro. Bag Co.** is constructing a new plant at Memphis, Tenn. The building is scheduled to be completed in April.

**Dan River Mills,** Danville, Va., is preparing a 604-acre recreational area for its employees on a tract located in nearby Pittsylvania County.

**Dixie Belle Spread Co.** has started operations at Adairsville, Ga. Irving Funk is general manager.

**Erwin Mills, Inc.,** Durham, N. C., plans to consolidate its No. 6 plant with its No. 4 plant. The move is designed to increase percale-sheeting production. The conversion cost is estimated to be nearly $500,000.

**Georgia Textile Corp.,** Calhoun, Ga., is now operating the new addition to its bedspread plant on King St. The modern air-conditioned executive offices and display rooms have also been completed.

**Graniteville Co.,** Vaucluse Plant, Vaucluse, S. C., is completing a project that will double capacity.

**Joanna Cotton Mills Co.,** Joanna, S. C., is completing the installation of its air-conditioning system.

**Katherine Rug Mills,** Dalton, Ga., has asked bids for the construction of a new one-story mill that will be used for chenille rug manufacture. Robert & Co. Associates, Inc., Atlanta, Ga., is the architect and engineer.

**Linwood Lace Co.,** Coventry, R. I., recently installed two lace machines that were made by the English firm of Jardine & Co.

**Lydia Mill,** Clinton, S. C., is completing a 30% enlargement program in its spinning and weaving facilities.

**Ninety-Six Cotton Mill,** Ninety-Six, S. C., is installing new machinery in its plant.

**Self Mills,** Greenwood S. C., is erecting a $5,000,000 print-cloth mill.

**Wehadkee Yarn Mills,** West Point, Ga., has purchased the Talladega Cotton Factory, Talladega, Ala. It is understood that production will be continued as in the past.

**White Horse Mill,** Greenville, S. C., is increasing its manufacturing facilities by adding 6,000 new spindles and 120 looms.

## Woolen and Worsted Mills

**Arcadia Mills,** a unit of Arlington Mills, Lawrence, Mass., has been sold to the Simco Realty Co., a wholly owned subsidiary of the Simmons Upholstering Co. The building will be used for weaving fabrics and for some nontextile operations.

**Associated Spinners, Inc.,** New York, N. Y., is said to be considering Charleston, S. C., and Savannah, Ga., as possible locations for a plant to spin wool and synthetic-fiber blends.

**Burlington Mills,** Greensboro, N. C., has acquired the stock of the Peerless Woolen Mills, Rossville, Ga. Burlington will continue to operate Peerless under its present executive staff.

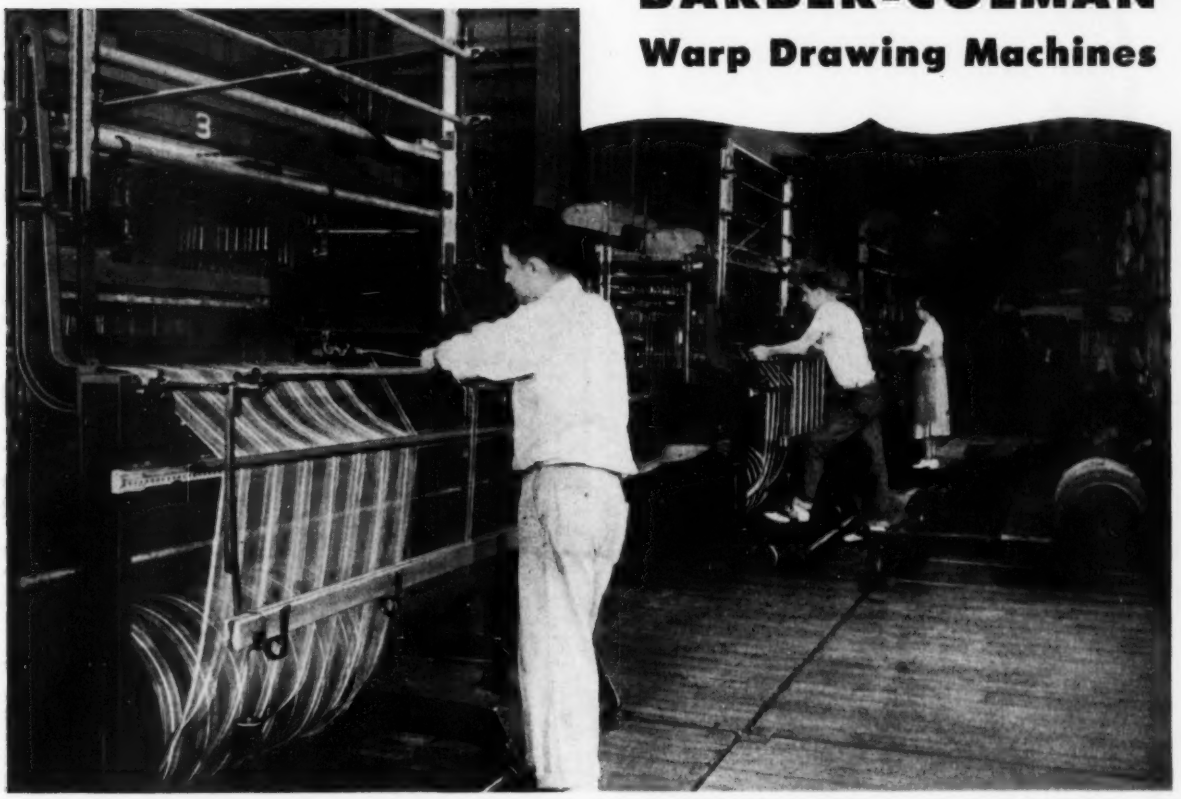
**Dorr Woolen Co.,** Guild, N. H., is building a two-story addition to its mill.

**Down Carpet Co., Inc.,** Philadelphia, Pa., has let a $40,000 contract for alterations to its weave room. Edgar M. Wambold, Philadelphia, is the general contractor.

**Duesberg-Bosson Woolen Spinning Co.,** Jefferson, Mass.,

## Complicated drafts can be accurately drawn on . . .

# BARBER-COLMAN
## Warp Drawing Machines



Dan River Mills, Inc., Schoolfield Division, Danville, Virginia, has seven Barber-Colman Warp Drawing Machines. The three shown above, each with capacity for up to 16 harness and 6 banks of drop wires, are operated by two men and a woman with a helper for each machine.

The Barber-Colman Warp Drawing Machine is completely equipped to handle warps from a flat sheet, split sheet, one-and-one lease, or combination of one flat sheet and one leased warp. Warps of cotton, worsted, wool, filament, spun synthetic yarn, or monofilaments can be drawn for plain or dobby weaves. Complicated drafts can be accurately drawn because all the weaving elements are individually controlled from a single sheet metal pattern. Reed, harness, and drop wires are all drawn simultaneously in one loading and setting of the machine.

**DATA:** Cotton warp, stripe . . . 2992 ends . . . 69 sley . . . dobby or fancy draw . . . 11 harness . . . 4 banks of drop wires . . . 160 picks per minute. (These specifications are typical of the varied work done on the machines illustrated above.)

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SUPER-SPEED WARPERS
WARP TYING MACHINES
WARP DRAWING MACHINES

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# *News About* **MILLS** (Continued)

and **Duesberg-Bosson of America, Inc.**, have purchased more than 200 acres of land and a half dozen mill buildings that were formerly occupied by Jefferson Woolen Mills.

**Franklin Mill** of M. T. Stevens & Sons Co., Franklin, N. H., is completing its modernization program. New equipment has been installed. The spinning and weaving operations have been transferred to the company's Tilton, N. H., plant.

**Smith Mfg. Co. Ltd.**, Weston, Ont., has opened its new $750,000 plant on Clayson Rd.

## Synthetics Mills

**Faith Mills, Inc.**, Averill Park, N. Y., has sold its carding and spinning mill and some premises at West Sand Lake to Troy Yarn Mills, Inc. The West Sand Lake property will be used for the spinning of wool, nylon, and synthetic blended yarns for the weaving and knitting trades.

**Skenandoa Rayon Corp.**, Utica, N. Y., has reopened after a shutdown during which a $1,000,000 modernization program was completed.

**Textron Southern, Inc.**, is enlarging its mills at Anderson and Belton, S. C. The Anderson plant is increasing the size of its weave room and the Belton plant is building a weaveroom addition. The project is expected to cost about $2,000,000. Daniel Construction Co., Greenville, S. C., is in charge of the project.

## Knitting Mills

**Alamac Knitting Mills**, Indian Orchard, Mass., has leased a building containing 25,000 sq. ft. of floor space. The building will be used for additional dyeing, finishing, and testing equipment for synthetic fabrics.

**Berkshire Knitting Mills**, Reading, Pa., recently opened its branch plant at Andrews, N. C. The mill contains over 71,000 sq. ft. of floor space. The equipment that was installed includes 48 full-fashioned, 30 sections, 51- and 60-gauge knitting machines.

**Cline Hosiery Mill**, Spruce Pine, N. C., is planning to build a one-story concrete-and-steel building that will contain 4,250 sq. ft. of floor space.

**Eagle Knitting Mills**, Milwaukee, Wis., will erect a 4-story addition that is expected to add 60% to the mill's production.

**Holeproof Hosiery Co.**, Milwaukee, Wis., is planning to construct a plant near Paris, France. The construction of this one-story building is expected to begin early this year. All machinery for this mill will be supplied by American companies.

**Jantzen Knitting Mills**, Philadelphia, Pa., has let a $25.000 general contract for alterations to its warehouse building. Master Masons Construction Co., Philadelphia, is the contracting firm.

**Jersild Knitting Co.**, Neenah, Wis., has let a contract to Charles Gambsky Co., Neenah, for a one-story addition.

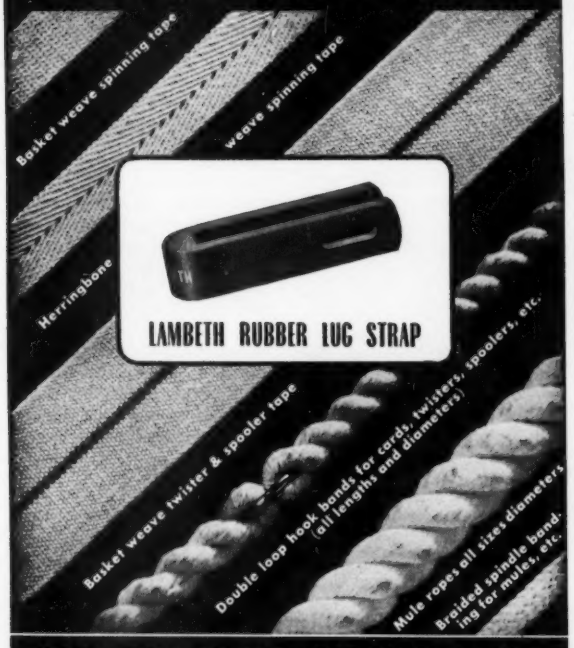
**Julius Kayser & Co.**, New York, N. Y., will begin operations soon in its new plant in Liberty, S. C.

**Lee Knitwear Corp.** has changed its name to **Lee Beachwear Corp.** and has moved its plant from Brooklyn, N. Y., to a building at State and James St., New Haven, Conn.

**Munsingwear, Inc.**, Minneapolis, Minn., has broken ground at Bentonville, Ark., for a new hosiery plant. This plant, as well as the one in nearby Rogers, Ark., will be under the direction of Ray Bacon. The company has transferred the executive operations of its hosiery division from Des Moines, Iowa, to the home office in Minneapolis where they will be under the direct supervision of George D. McConnel, president. Lester Davis has been named supervisor of all hosiery production in Des Moines.

**Newland Hosiery Co.**, Newland, N. C., a subsidiary of Vaughan Knitting Co., Pottstown, Pa., recently began operations in its newly completed

## LAMBETH PRODUCTS
FOR SPINNING, TWISTING, SPOOLING, WEAVING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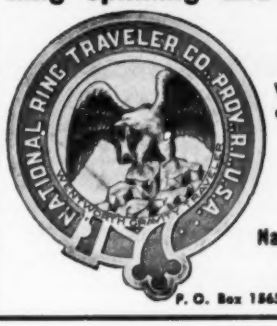


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# *News About* **MILLS** (Continued)

plant. English-rib knitting machines have been installed for the manufacture of men's and boys' socks and misses' anklets.

**Oneita Knitting Mills**, Utica, N. Y., will soon move into its new plant that is being built at Andrews, S. C. Daniel Construction Co., Greenville, S. C., is the contractor.

**Park Dale Hosiery Mill**, Catawba, N. C., has begun production under the direction of J. E. Robinson.

**Princess Royal Knitting Mills** is the name under which the estate of the late Abraham Blumberg will continue the Blumberg hosiery business in Reading, Pa.

**Rockwood Mills**, Rockwood, Tenn., plans improvements in both plant and equipment. Work is to begin soon on a program that will involve improvements in the mills' operating facilities, methods, and conditions.

**Stylewise Mills, Inc.**, Carrollton, Ga., has returned to the production of nylon full-fashioned hosiery. The mill discontinued hosiery production some months ago to concentrate on the production of nylon-tricot cloth. The mill plans to install 66-gauge full-fashioned machines. Dyeing and finishing equipment will be added.

**Sulloway Hosiery Mills, Inc.**, Franklin, N. H., will stop production of full-fashioned hosiery and devote its facilities to making seamless hose.

**Zor-Knit Mills, Inc.**, has moved its tricot operation from Fort Lauderdale, Fla., to Carlton Hill, N. J. Production has been started at the new location.

## Dyeing and Finishing Plants

**Cabin Crafts, Inc.**, Dalton, Ga., has started construction on a new building that will house additional dyeing and finishing equipment. The company plans to construct a five-story building for general expansion early in 1953.

**Consolidated Bleaching Co.**, North Bergen, N. J., is reported to have set up the first installation of a British Standfast molten-metal dyeing system in this country.

**Putnam Dye Works**, Putnam, Conn., has begun jack-spool dyeing of worsted and woolen yarn in part of the Putnam Worsted Co. plant. Francis J. Colman, formerly a partner in Clinton Dye Works, Clinton, Mass., is the owner.

## Foreign Mills

**Cairo, Egypt.**—New textile mills in Egypt, employing some 100,000 workers, are now making cotton cloth at a rate of 120,000,000 lb. a year.

**Fabrica Textil de las Andes, S. A.**, Medellin, Colombia, is planning to enlarge its plant with capital from the United States.

**Newcastle Wool Processing Co.** Ltd., Newcastle, Australia, under construction for two years, will begin wool-scouring operations soon.

**Norman Scatchard Ltd.**, a unit of Gray's Carpets & Textile Ltd., Halifax, Yorkshire, England, will soon put in operation a plant at Dromore, Northern Ireland, formerly run by Murphy & Stevenson Ltd. Moquettes and tapestries will be woven.

**"Rayonhil" Industrial Nacional de Rayon, S. A.**, Chile, is floating a 50,000,000-peso stock issue to finance an expansion program. Oscar Kohorn & Ltd., New York, N. Y., built the first plant in 1947 and is interested in the present expansion plans.

**South Java, Indonesia**—At the town of Tjilatjap, a textile mill equipped with Japanese machinery is in the process of erection. The report states that the over-all cost is nearly $6,000,000.

**Taipeh, Formosa**—The erection of a $400,000 privately owned textile mill has been approved by the Nationalist authorities. Chinese capitalists of Hong Kong will import 240 looms from Japan for this enterprise.

## NEWS ABOUT *Men*

**Frank Adams** has resigned as assistant superintendent of the Mascoma Mills of American Woolen Co., Lebanon, N. H. He has been succeeded by **Richard C. Brown. William C. Ross** has been appointed general superintendent at Mascoma.

**Edward F. Addiss** has been named vice president of A. D. Juilliard & Co., New York, N. Y. Mr. Addiss was formerly a director and chairman of the executive committee of Susquehanna Mills, Sunbury, Pa.

**F. M. Allison** has been named overseer of spinning for J. &. H. Clasgens Co., New Richmond, Ohio.

**John Atkin**, division superintendent for Verney Corp., Manchester, N. H., has resigned to become associated with the Richport Finishing Co., Palmer, Puerto Rico.

**H. O. Ball** has been elected president of the Pepperton Cotton Mills, Jackson, Ga., to succeed the late **B. A. Wright. W. O. Ball** has been elected vice president and treasurer, and **L. J. Ball** has been elected secretary.

**G. A. Batte, Jr.**, assistant treasurer of Cannon Mills Co., Kannapolis, N. C., was elected to the board to succeed the late **Martin L. Cannon.**

**Raymond Y. Bartlett**, formerly with Botany Mills, Inc., Passaic, N. J., has been appointed general sales manager of Talon, Inc.

**Edward P. Bolen** has been elected a vice president of National Automotive Fibres, Inc., Detroit, Mich.

**George E. Bondurand** has been named executive vice president of Foundation Worsted Co., a division of Oregon Worsted Co., Portland, Ore.

**George Bott**, former superintendent of Wyandotte Worsted Co., Waterville, Me., and of Kennebec Mills of American Woolen Co., Fairfield, Me., is now with Cheshire Mills, Harrisville, N. H.

**JEWETT T. FLAGG has been elected president and chief executive officer of the recently merged Flagg-Utica Corp., Utica, N. Y. Mr. Flagg is president, treasurer, and a director of J. T. Flagg Knitting Co., Inc., Florence, Ala. John S. Van Vliet has been named treasurer and Austin Broadhurst, secretary.**

**Forbes Bradley**, vice president and general manager of Columbus Mfg. Co., Columbus, Ga., has been elected President to succeed **Joseph L. Lanier**, who has been named chairman of the board. **Henry B. Robinson**, superintendent, was promoted to vice president. **Joe L. Jennings**, executive vice president of the West Point Mfg. Co., was elected a director.

**Edward E. Burdett** has been appointed general superintendent of the Atlantic Mills Div. of A. D. Juilliard & Co., Inc., Providence, R. I. He succeeds **Jordan W. Wenberg.**

**Joseph Circosta** has been named overseer of dyeing and finishing at Agawam Woolen Co., Inc., Agawam, Mass.

**George J. Clavin** has been appointed superintendent at Pendleton Woolen Mills, Pendleton, Ore., succeeding **E. Jambura**, who has resigned.

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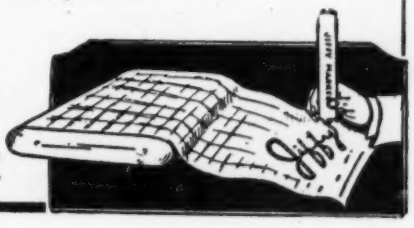





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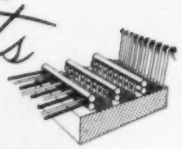
# Fugitive Tints



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Fugitive Tints developed by the United States Testing Company, Inc., are applicable to silk, acetate, rayon, cotton, wool, nylon, Dacron, Acrilan, Dynel, Vinyon, Orlon-81. *Pre-tested* for fugitivity and uniformity . . . *performance-tested* by over 1,000 mills all over United States, Canada, South America, and Cuba.

U.S. Testing Co. Tints may be applied by spraying, daubing, or in the soaking bath. They are fugitive under standard mill scouring treatments applied to the different fibers (even in the case of wool that is steam-treated for twist setting purposes prior to scouring).

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**Certified Powder Tints**—Water Soluble for Silk, Rayon and Acetate — single fiber or blends.

**Nylon Powder Tints** — Water Soluble for Nylon only.

**"CUMOL" Liquid Tints** — Oil Soluble for Rayon, Acetate and Cotton — single fiber or blends.

**"NYLOL" Liquid Tints** — Oil Soluble for Nylon Only.

**"BLENTEX" Liquid Tints** —Water Soluble for one fiber or blends of Wool, Nylon- Dacron- Acrilan- Dynel- Vinyon- Orlon-81- Rayon- Acetate and Cotton.

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# *News About* **MEN** (Continued)

**Godfrey H. Conze** has resigned as president of Susquehanna Mills, Inc., Sunbury, Pa. **Fred Kloeckener** has resigned as first vice president and will be succeeded by **Kenneth B. Cook.** These resignations are part of a reshuffling of officers, and both Mr. Conze and Mr. Kloeckener will remain with the company in other positions.

**Dr. French A. Croddock** has been named a vice president of Avondale Mills, Sylacauga, Ala. Dr. Croddock will also remain in charge of the medical department.

**Clinton Davis** has resigned from Northeastern Dye Works, Lonsdale, R. I.

**Harry Davis,** formerly superintendent of Pee Dee Mill, Rockingham, N. C., is now general overseer of carding at Huntsville Mfg. Co., Huntsville, Ala.

**Roger Egan** has been named office manager at Monarch Rug Mills, Dalton, Ga.

**S. C. Gibson** has joined Ardmore Hosiery Mill, Inc., Ardmore, Tenn., as superintendent-manager in charge of manufacturing.

**Alan Goldberg** is now associated with Wamsutta Mills, New Bedford, Mass., where he will develop and design new fiber blends as part of the firm's expanding fabric operations.

**Daniel A. Gosselin** has been appointed paymaster of Baltic Mills of American Woolen Co., Enfield, N. H.

**C. Gerard Guertin,** former purchasing agent for Atlantic Parachute Corp., a subsidiary of Textron, Inc., New York, N. Y., has been named assistant to the president of Gehring Textiles, Inc. Mr. Guertin will be in charge of purchasing.

**Ralph M. Gutekunst** has been elected vice president of Hellwig Dyeing Corp., Philadelphia, Pa.

**M. Lee Hanna** has resigned as superintendent of the Cascade plant of Burlington Mills Corp., Mooresville, N. C. Mr. Hanna's position at the Cascade plant is at present being filled by **W. H. Spencer,** group supervisor of the Newton and Cascade plants for the past year.

**E. L. DANIELS has been named superintendent of the knitting department of Airmaid Hosiery Mills, New Braunfels, Tex., succeeding Richard E. Barth, resigned. Mr. Daniels was formerly quality controller at the mill.**

**Herschel Harris** has been elected president of Standard-Coosa-Thatcher Co., Chattanooga, Tenn., succeeding **Richard Thatcher,** who is now chairman of the board. **Roy E. Butler** was elected assistant treasurer.

**Edgar L. Henderson** was recently elected secretary of West Point Mfg. Co., West Point, Ga., succeeding **Edward C. Hunt.** Mr. Henderson was also elected secretary of three subsidiary companies.

**Julian T. Hightower** has been elected president of Thomaston Mills, Thomaston, Ga.

**J. V. Hill** has been named vice president of Canada Woven Label Ltd., Montreal, Canada.

**Edwin G. Holt** was elected a vice president and **John E. Field** assistant treasurer of Cone Mills Corp., Greensboro, N. C.

**E. M. Holt** has been named director of the new Research & Development Div. of Erwin Mills, Inc., Durham, N. C.

**Milford O. Howard** has been appointed recreational director at the Victor Plant of Victor-Monaghan Co., a division of J. P. Stevens & Co., Inc., Greer, S. C. Mr. Howard succeeds **Fred Snoddy,** who was

# *News About* **MEN** (Continued)

promoted several weeks ago to the personnel division.

**Thomas B. Hubbard** has been elected vice president in charge of sales at Oneita Knitting Mills, Utica, N. Y. He succeeds **Frederick L. Devereux, Jr.**, who resigned as general sales manager.

**Harold Huey** has been appointed recreation director of the Greer Plant of Victor-Monaghan Co., a division of J. P. Stevens & Co., Inc., Greer, S. C. Mr. Huey succeeds **John Stack**, who has been transferred to the Monaghan Plant in Greenville, S. C., where he will be in charge of the shipping department.

**David H. Johnson** is now overseer of knitting at Reilly Co., Inc., Valatie, N. Y.

**J. Chester Johnson** has resigned as purchasing agent of Mooresville Mills, Mooresville, N. C.

**Homer E. Jones**, assistant general merchandise manager of Munsingwear, Inc., Minneapolis, Minn., has been promoted to vice president and general merchandise manager. **Thomas W. Hillyward**, general sales manager, has been advanced to vice president and general sales manager. **Laurens D. Dawes**, secretary-treasurer, has been promoted to vice president in charge of all merchandise marketed under the Munsingwear brand. **Roy G. Zimmerman** has been named controller, and **Blaine Hansen** has been named assistant controller. **C. W. Jensen** has been named vice president in charge of Eastern business and will continue as Eastern sales manager.

**Victor F. Kahn** has been promoted from assistant vice president to a full vice president of M. Lowenstein & Sons, Inc., New York, N. Y.

**Daniel Kelminson**, founder, president, and general manager of Independent Cordage Co., New York, N. Y., has sold his interest in that company and organized the General Twine Corp.

**John Kitowicz** has been named overseer of spinning at Wyandotte Worsted Co., Waterville, Maine. **Verne Violet** has resigned as overseer of carding and has been succeeded by **Roland Patnaude.**

**DONALD B. DERBY has been elected president of United States Finishing Co., Norwich, Conn.**

**G. M. Laberge** has resigned from Barnai Worsted Co., Woonsocket, R. I. He has become dyer on the night shift of Delta Finishing Co., Plant No. 2, Attleboro, Mass.

**Joseph L. Lanier**, president of West Point Mfg. Co., West Point, Ga., was elected chairman of the board of the Equinox Mill, Anderson, S. C.

**Harold LaTour**, superintendent of weaving at the Rockdale Mill of Paul Whitin Mfg. Co., Northbridge, Mass., has been promoted to superintendent of preparation and weaving. **John Thibeault** has been advanced to overseer of weaving. **Alston Winter** has been named office manager.

**George W. Little** has been named resident manager of the U. S. Finishing Co. plant at Hartsville, S. C., succeeding **J. J. Mowry.** Mr. Mowry has been appointed acting president of the company as well as general manager of the Hartsville plant.

**Willfred W. Lufkin, Jr.**, was elected president and chief executive officer of Wellington Sears Co., Inc., New York, N. Y., succeeding **Richard Conant**, who has been named chairman of the board.

**Walter H. Lyngaas** has joined the Chicago office of Ripon Knitting Works, Ripon, Wis.


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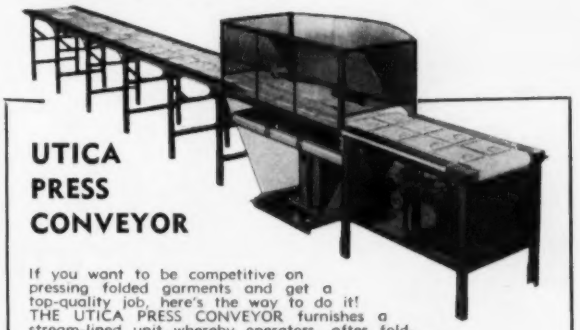

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# *News About* **MEN** (Continued)

**Ray C. Manderbach** has been named vice president in charge of purchasing and production at the Narrow Fabric Co., Reading, Pa.

**J. M. McSwain** has been promoted to night superintendent at Eastman Cotton Mills, Eastman, Georgia. **G. W. Holt** has been promoted to second hand in charge of carding and spinning on the third shift and **W. E. Fowler** has been promoted to weaving second hand on the third shift.

**C. H. Merriman,** vice president, was named an executive vice president of Crompton-Shenandoah Co., Waynesboro, Va. **S. Y. Austin, Jr.,** was promoted from assistant vice president to vice president. **Harold Kinder** has been named a vice president in addition to his duties as general manager. **Edwin Morin** will become a vice president and manager of Plants Two and Three.

**Brendon T. Morse** has been named controller and assistant treasurer of Botany Mills, Passaic, N. J. **Louis H. Hall** has been named secretary.

**Sydney M. Newbold** has resigned as head of the woolen and worsted division of Susquehanna Mills, Sunbury, Pa.

**Jerome A. Newman** has been named chairman of the board of the recently formed Flagg-Utica Corp. Other members of the board are **Samuel Y. Austin, P. Baselice, E. Howard Bennett, Edward P. Brown, Blair Claybaugh, Joseph P. Ely, Jewett T. Flagg, R. Earl Jones, Jack Lee, John Losee, William H. Mitchell, Douglas Newman, Howard A. Newman,** and **George E. Westberg.**

**H. P. Pearson** has resigned as general superintendent of Baltic Mills of American Woolen Co., Enfield, N. H., to accept a similar position with Strong, Hewat & Co., North Adams, Mass.

**H. S. Peterson** has been named vice president in charge of manufacturing at Julius Kayser & Co. Ltd., Sherbrooke, Que. **J. G. Kenna** has been named secretary-treasurer of the company.

**Maj. Gen. Irving J. Phillipson, USA (Ret.)** has resigned as director of industrial relations at Botany Mills, Passaic, N. J.

**DR. EDWARD A. MURRAY has resigned as a member of Deering, Milliken Research Trust to initiate a consulting service in the fields of textile sizing and finishing.**

**Lucius G. Pratt** has been elected to the presidency of Samson Cordage Works, Boston, Mass.

**Roy Reubel,** formerly with Bangor Mills, Inc., Pen Argyl, Pa., has resigned to form his own firm, Delroy Fabrics.

**John C. Roberts** has been elected president of Textile, Inc., Gastonia, N. C., succeeding **A. G. Myers,** who has become chairman of the board. **Don Maddox** and **Percy H. Thompson** were elected vice presidents and **A. G. Myers, Jr.,** was elected secretary and treasurer.

**E. Hanes Rogers** has been promoted to the newly created position of sales engineer at Fulton Bag & Cotton Mills, Atlanta, Ga.

**William C. Ross** has been named general superintendent of the Baltic Mills of American Woolen Co., Enfield, N. H. Mr. Ross will also continue as superintendent of the Mascoma Mills in Lebanon, N. H.

**Henry C. Scheer** has retired as credit manager of American Woolen Co., New York, N. Y.

**Dennis Shea,** general manager of Vanta Corp., has transferred to Montezuma, Ga., as vice president of the local division.

# *News About* **MEN** (Continued)

**A. P. Smith** has been elected executive vice president of Russell Mfg. Co., Middletown, Conn. **Ernest R. Dayton** was elected vice president and treasurer, and **J. Richard Taylor,** controller. The elections followed the retirement of **Carl J. Scherer,** vice president, treasurer, and general manager.

**Roy M. Stephens,** who has been assistant to **Raymond Henderson,** general superintendent of Dan River Mills, Danville, Va., has been promoted to superintendent of the Riverside Div.

**Joseph Sterling** has been named superintendent of Joseph Bancroft & Sons Co., Reading, Pa. He was formerly with the York Mfg. Co., Saco, Me.

**Peter L. Stone** has been elected executive vice president of Ludlow Mfg. & Sales Co., Boston, Mass.

**Fred A. Thomas** recently resigned as resident manager of the Bradford Mills of American Woolen Co., Louisville, Ky.

**John E. Tobin,** superintendent of Ponema Mills, Taftville, Conn., has resigned after 20 years with the firm.

**George E. Tryon** has resigned as overseer of spinning for the Webster Mills of American Woolen Co., Webster, Mass. He has been succeeded by **L. B. Bussiere.**

**Ralph Turner** has been named coordinator of sales and manufacturing, a newly created position, at Mooresville Mills, Mooresville, N. C.

**Albert Ureel** has resigned as general plant superintendent of Foundation Worsted Mills, Portland, Ore. He has been succeeded by **Frank Newton,** his assistant.

**Robert L. Wentz** has been appointed executive vice president of Barclay Knitwear Co., Inc., New York, N. Y.

**H. D. Whitener** has been elected vice president of Rex Mills, Inc., Gastonia, N. C.

**Joseph C. Whitlock,** formerly assistant superintendent of Aleo Mfg. Co., Rockingham, N. C., is now general overseer of spinning at Huntsville Mfg. Co., Huntsville, Ala.

**E. L. RANKIN has resigned as a member of the public relations department of Burlington Mills Corp., Greensboro, N. C., to become secretary to Governor-Elect William B. Umstead of North Carolina.**

**B. William Wharton** has been elected president of Dixie Mills, Inc., LaGrange, Ga.

**E. D. Wielicka** has been named head dyer at Columbia Mills, Minetto, N. Y.

**Howard Wilcox** has been appointed to the position of manager of the yarn department of Kenwood Mills, Cavendish, Vt.

**Ed Williams** has been appointed general night assistant of all departments of the Eureka plant of Springs Cotton Mills, Chester, S. C., succeeding **Robert L Hale.** Mr. Hale has resigned to accept a position as assistant superintendent of Utica-Mohawk Mills, Seneca, S. C.

**A. S. Wilson, Jr.,** has assumed his new duties in the executive offices of Aberfoyle Mfg. Co., Philadelphia, Pa. **J. G. Lecrone** has succeeded Mr. Wilson as plant manager of Aberfoyle's plant in Bridgeton, N. J.

**Henry Witosek** has been named supervisor of printing operations at the Gilbertville Mills, Inc., Gilbertville, Mass. Mr. Witosek succeeds **Edward Faber.**

**Arthur Yetman** is now with Orr Felt & Blanket Co., Piqua, Ohio, as foreman of the carding department of the blanket division.


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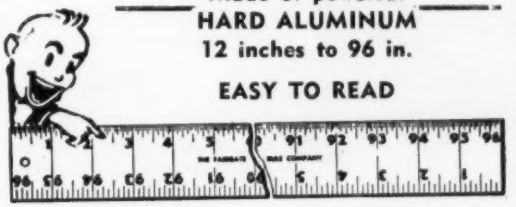

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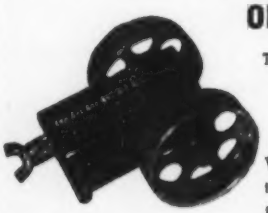

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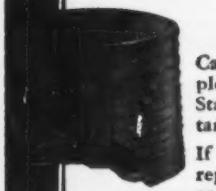

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# OBITUARY

**John P. Abbott,** 77, a former vice president and sales director of Providence Dyeing, Bleaching & Calendering Co., Providence, R. I.

**E. Broadbent,** sales representative for Universal Winding Co. in Utica, N. Y.

**Clifford L. Cann,** 74, retired superintendent of Cosmos Imperial Mills Ltd., Yarmouth, N. S.

**Martin L. Cannon,** 67, a member of the board of Cannon Mills, Inc., Kannapolis, N. C.

**Adam P. Carr,** 61, departmental superintendent of Amazon Cotton Mills, Thomasville, N. C.

**Henry J. Cochran,** 73, a member of the board and executive committee of American Enka Corp., Enka, N. C.

**David S. Cook,** 51, vice president in charge of manufacturing at Clinton-Lydia Cotton Mills, Clinton, S. C.

**James McGilvray Collier,** 84, superintendent of the mechanical department of Victoria Cotton Mills, Rock Hill, S. C.

**Fred Cundill,** superintendent of Plymouth Cordage Co. Ltd., Welland, Ont.

**Charles F. Devlin, Sr.,** 65, vice president of Charles Devlin & Sons, Philadelphia, Pa.

**Theodore Friedlander,** 66, president and chairman of the board of Phoenix Hosiery Co., Milwaukee, Wis.

**James A. Gilrane,** 68, former general superintendent of the yarn department of the Arlington Mill of American Woolen Co., Lawrence, Mass.

**Lonnie William Green, Sr.,** 69, superintendent of Highland Park Mfg. Co., Charlotte, N. C.

**John J. Groothedde,** 50, treasurer of United Piece Dye Works, Lodi, N. J.

**Ernest N. Hood,** 71, retired treasurer of Namukeag Steam Cotton Co., Salem, Mass., and a former president of the National Association of Cotton Manufacturers.

**Aaron C. Horn,** 76, chairman of the executive committee and a director of Sun Chemical Corp., Long Island City, New York.

**Howard A. Lutes,** 68, superintendent of knitting at Elmira Knitting Mills, Elmira, N. Y.

**G. L. Lyerly, Sr.,** 64, secretary-treasurer of both the Elliott Knitting Mills and the Lyerly Full-Fashioned Mills, Hickory, N. C.

**Robert Harvey Maupin, Sr.,** 59, president of Athens Elastic & Braid Co., Athens, Ga.

**Dr. Otto B. May,** 72, founder and president of Otto B. May, Inc., Newark, N. J.

**George Washington McCommon,** president of Atlantic Cotton Mills, Macon, Ga.

**Raymond J. Morfa,** 58, a director of Airmaid Hosiery Mills, Dallas, Texas.

**Fred L. Neaves,** 49, general superintendent and a director of Chatham Mfg. Co., Elkin, N. C.

**W. P. Paxton,** 73, president of Southern Textile Co. and Claussner Hosiery Co., Paducah, Ky.

**Albert S. Stocks,** former general manager of Columbia Mills, Wilkes-Barre, Pa.

**John Sullivan,** 93, former agent of the Taber Mill, New Bedford, Mass., and former president of the New Bedford Cotton Manufacturers Association.

**John F. Tinsley,** 72, president and treasurer of Crompton & Knowles Loom Works, Worcester, Mass.

**Charles S. White,** 78, former manager of the New York office of Hope Webbing Co., Pawtucket, R. I.

**Robert T. Wood, Sr.,** former owner of the Sheble Worsted Mills, Philadelphia, Pa.

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Applicant must now reside in the Southern Textile Area. Preferably, but not necessary, he should be acquainted with the trade.

Liberal salary and traveling expenses plus an attractive commission rate. All replies will be held in strict confidence.

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CIRCULAR KNITTING designer and technician wanted by leading knitted fabrics manufacturer—capable of analyzing and designing new knitted fabric—preferably textile school graduate. P-6352, Textile World.

MAN WITH some practical experience in circular and flat knitting interested in instruction of elementary knitting to cooperative apprentices. Position is on twelve-month basis and is with school developing knitting facilities. Degree of B.S. in Textile Engineering preferred but not essential. Give full personal information and experience in detail in first letter. Reply to P-6178, Textile World.

WANTED—FOREMAN for Raschel Machine Plant by prominent manufacturer in Metropolitan area—Give detailed statement of experience in this line and salary expected.—P-6334, Textile World.

WANTED—SMALL mfg. concern has opening for Mechanical Engineer for design work on line of textile specialties. Philadelphia area. Submit resume in detail and salary requirements to P-6351, Textile World.

WE ARE looking for a man to understudy the job of head finisher and to assist the superintendent at our weaving and finishing plant outside of Troy, N. Y. Family man of reasonable age and with practical technical chemistry background preferred. Application by mail should include summary of experience for prompt consideration. Write to P-6285, Textile World.

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SUPERINTENDENT OF Weaving, with 15 years experience as Supervisor in one of the largest woolen and worsted companies, desires position as Superintendent or Overseer of Weaving. Has had charge of Dressing, Weaving and Mending, and has Textile School and Loomfixing background. Thoroughly experienced in manufacturing plain, fancy and piece-dyed fabrics. Has good record in handling help, both union and non-union in northern and southern mills. Textile experience and references furnished. PW-6042, Textile World.

THROWSTER WIDE experience throwing rayon, silk & nylon yarn for the dress goods, hosiery, ribbon, knitting & underwear trade. Highly trained in quality-production-cost control. Competent in personnel & training. Desires position to manage throwing operations or as technician for large concern. PW-6075, Textile World.

TEXTILE ENGINEER & Chemist, 44 years, much experience and knowledge in the preparation, weaving, loom frame regulation, dyeing in all forms, modern procedures, equipment, mercerization, fabrication velvet, etc. Wish employment as technical director in textile industry. Will, can build Textile Plant abroad. Write PW-4998, Textile World.

(Continued on the following page)

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## GENERAL MANAGER

To take charge of a Narrow Ribbon and Tape Mill. Must know how to calculate costs. State age, experience, and references

**P-6350 Textile World**
**330 West 42nd Street, New York 36, N. Y.**

# FIRST CLASS DYER WANTED

Must have proper educational training in chemistry and successful background in dyeing synthetic fabrics with excellent matching ability. Good executive type capable taking full charge dyeing department with successful concern located in Southern area. Reply should be detailed and will be held in strict confidence.

**P-5920**, Textile World
520 N. Michigan Ave., Chicago 11, Ill.

Additional Positions Vacant Ads on the following page

*WANTED*

## TEXTILE CHEMIST

Long established manufacturer of textile machinery has an opening for an experienced man who is interested in technical sales and product development of textile finishing machinery. This position requires the following type of man.

Education: Textile school graduate in chemistry and dyeing.

Experience: 5 years in modern cotton finishing plant; for example, experience in operating pad-steam, bleaching ranges, etc. 5 years experience in technical service for dyestuff manufacturer.

Strict confidence given application.

P-5969, Textile World
330 W. 42 St., New York 36, N. Y.

## RESEARCH TEXTILE ENGINEER

For work in the broad field of development of new yarn and fabric structures, utilization of new fibers, and related problems.

Requires preferably advanced degree in Engineering or Physics with at least four to five years experience in Textile Research.

Excellent opportunity for aggressive and capable qualified person. Liberal benefits and pleasant working conditions. Please give resume of personal background, education and experience, with salary requirements, in first letter.

**Celanese Corporation of America**
**Summit Research Laboratories**
**Summit, New Jersey**

## WANTED
## ASSISTANT SUPERINTENDENT

A New England mill manufacturing fine combed cotton yarns is looking for an assistant superintendent, preferably a textile school graduate with five to ten years' practical experience in successful mills. Unusual opportunity for the right man to work into a permanent position paying a good salary. Telephone or write in confidence to CHARLES P. RAYMOND SERVICE, INC., 294 Washington Street, Boston 8, Massachusetts, Telephone LI2-6547.

## DYE HOUSE SUPERVISOR

To take complete charge of all phases of dyeing and finishing knitted fabrics of cotton, wool, rayon and new man-made fibers. Must be able to supervise help. Only top caliber man will be considered. Reply giving full details as to qualifications to

P-6221, Textile World
330 W. 42 St., New York 36, N. Y.

## POSITIONS WANTED
(Continued from the preceding page)

TEXTILE ENGINEER experienced fabric and process development—Planning, expediting, evaluating. PW-6261, Textile World.

RASHEL MECHANIC—20 years exp. assume charge of knitting and warping. Excellent references available. PW-5528, Textile World.

TEXTILE ENGINEER, 29, graduated top French Textile School, 5 years experience in manufacturing worsted, cotton, synthetics, desires position in Engineering Dpt. for Quality and Cost Control and Incentive Organization. PW-5709, Textile World.

*FOR SALE*

**RIBBON—WEBBING**
**—NARROW FABRIC**
## WEAVING PLANT

20,000 square feet; 100% Sprinklerized; Concrete Floor; High Ceiling; Brick Building; All Steel Beams—5 Room Supt. House. Fletcher type looms; all necessary auxiliary equipment, including two high speed creels.

Dye Plant—10,000 square feet; Buhlman Dyeing Mach. (62 Arms); Boiler—150 H. P. Excellent Labor Conditions. Plenty Water. Substantial amount of Government Work has been produced. Owner Retiring.

F.S.-6255, Textile World
330 W. 42 St., New York 36, N. Y.

## WANTED
## TEXTILE MACHINERY

including Carding Machines, Spinners, Automatic Looms, Slashers, S/S Dyers, Extractors, Calenders, Clip & Pin Tenters, Dry Cans, Multi-color Presses.

Will consider operating or idle plant.

**P. O. Box 1351**
**Church Street Sta., New York 8, N. Y.**

## FANCY YARN TWISTERS WANTED

Must be in good condition, tape drive double pulleys, three to four inch vertical rings, double roller. Write giving full details.

**ALLAN YARN MILLS**
**P. O. Box 424 Lenni Mills, Penna.**

*WANTED*
**12 TUBE SMITH DRUM SKEIN**
## DYEING MACHINE

Cascade Type, Monel Metal or Stainless Steel Construction.

W-6237, Textile World
330 West 42nd St., New York 36, N. Y.

## WANTED TO BUY

Rag or shotty pickers, Dodge, Kitsons or etc.
Ceiling condensers approximately 18 inches wide.
Batt slitters, garnetts, lappers, and feeders.
Shredders, wire cloth type.
Needle felting machine.

**P. O. BOX 150 ALHAMBRA, CALIFORNIA**

*WANTED RUBBER COVERED ROLL*

Which can be turned down to dimensions as follows: Diameter 5 ¾" to 7" length of roll surface 45", shaft extension 12" minimum each end and 15/16" minimum diameter. Length over all minimum 69". Write stating location and price.

W-6357, Textile World
330 W. 42 St., N. Y. 36, N. Y.

## DYESTUFFS

Will buy your surplus and obsolete dyes and chemicals for cash.

**NEW ENGLAND PRODUCTS CO.**
**91 Oliver St. Boston, Mass.**
**Established 1919**

*FOR SALE*

## 6000 SPINDLE CARDED YARN MILL

Making 10's to 20's up to 4 ply, Southern location, excellent labor conditions, buildings and real estate can be bought or leased.

## TWO TEXTILE MILL BUILDINGS

35,000 and 15,000 square feet. We can install machinery to your specifications for carded or combed yarn unit at minimum cost.

FS-6392, Textile World
330 W. 42 St., New York 36, N. Y.

## FOR SALE

**High speed Knapp Warper,** Rebuilt by Hill Machine Co. Runs 200 yds. per minute. Makes 6 warps at one time. Variable traverse up to 10½", complete with motor magnetic clutch, electric clock, etc., to give instantaneous stop when used with Creel equipped with stop motion. Excellent operating condition.

**Universal #10 Quilling Machines** for 2 or 4 cop. Excellent condition.

**Complete Belt Drive Parts for Fletcher Ribbon Looms.** Available as complete units.

**Battens:** 28, 32, 46, 50, 98, 110 and 112 space battens for 15 ft. 8" ribbon looms. Reasonably priced. Excellent condition.

Inspection by appointment.

FS-6366, Textile World
330 W. 42 St., New York 36, N. Y.

## Attention Worsted, Cotton & Silk Mills
## FOR SALE

**One modern German**
## WARP TYING MACHINE

complete, used once for demonstration, immediate delivery, Rock Bottom Price

**NORCA MACHINERY CORPORATION**
**350 Fifth Avenue New York 1, N. Y.**

## PROFESSIONAL SERVICES

**EATON & BELL**

*Patent Attorneys*

904 Johnston Bldg., Charlotte, N. C.
1149 Munsey Bldg., Washington, D. C.

# COLLINS & AIKMAN OFFER
# 4 EXCEPTIONAL PIECES
# NEW AND USED EQUIPMENT
## *FOR SALE BECAUSE WE NEED THE SPACE*

**HUNTER CARBONIZING TANK—NEW** — Item HCT-J
Lead-lined Cypress tank
Fittings acid resisting metal
Nip rolls rubber covered
90" wide—Never used
At present, set up and ready to go at our Plant J, Bristol, Rhode Island.

**SACO LOWELL COTTON SLASHER** — Item SLCS-E
Complete with auxiliary equipment
Including Model D High Speed Warper
Regular Width—Beam type
Electric Stop motion—Bijur oil system
Universal magazine creel
500 Active ends with 6 lint fans
50 Allen section beams—54½" with 28" heads
1 head end for slasher
1 center frame (drying)
1 slasher vat
Cooking kettles, storage kettle, size pump, hook reed.
"Taylor system of slasher control" including all instruments, control valves, piping, etc.
At present, set up and ready to go at our Plant E, Roxboro, North Carolina.

**GESSNER TEASEL GIG AND BRUSH RANGE** — Item GTG-B
New 1948—Used 3 months
68" Working Width
6 Double Cylinder Gigs
1 Double Cylinder Brush
Cylinders 48" diameter x 60" face
Each unit separately driven by D.C. motors for variable speed, and motor generator set to supply D.C. current for entire range.
This is exceptional equipment.
At present, set up and ready to go at our Plant B, Philadelphia, Penna.

**2 GESSNER FULL DECATING MACHINES** — Item GFD-B
72" wide—Double unit includes
2 horizontal kettles or steaming cylinders with floor truck, carriage, apron rolls, and vacuum pump. Also, 2 cooling frames.
1 R C vacuum pump with drive
1—1000 lb. Shepard electric hoist and monorail
1—#1 Nash pump
All used but reconditioned by Gessner—1943.
At present, set up and ready to go at our Plant B, Philadelphia, Penna.

## USED EQUIPMENT — AVAILABLE IMMEDIATELY

### WINDING

**2 YARN WARP COILERS** — Item 12166
Ceiling Type

**WHITIN QUILLER—MODEL J** — Item L-WQ
304 Spindle
3½" Gauge—10½" Traverse

### FINISHING

**COATING MACHINE** — Item 12418
72" Width Cloth Roll
Chain Drive

**CURTIS & MARBLE STEAM PRESS** — Item 12290
66" Working Width
Chain Drive but Without Motor

**DRY TIGER** — Item 13214
3 Cylinder. Complete with cylinders and fancies, motors and starting equipment for cylinders and exhaust hoods.

**1 YARN TESTER** — Item 13519
Alfred Suter—Single Strand
Hand Operated

**1 Beater** — Item 13215
4 Cylinder
With exhaust hoods

### MISCELLANEOUS

**VARIABLE SPEED DRIVES** — Item 10091
2 Reeves—Size 2
3 Reeves—Size 3
1 Reeves—Size 6½
2 Llewellyn—Size 13

**1 PHILA. GEAR REDUCTION UNIT** — Item 13341
Size #12, Part 30, AT71921
No. 6036, 20 HP

**390 RED FIBER CASES** — Item 12610
35" long x 17" wide x 32" high
These cases are well constructed with 4 runners on the bottom and inside metal handles at the top. All corners and top are reinforced metal with 1¼" strap iron.

**3 THOMAS HALTON JACQUARD HEADS** — Item B-HJ
600 Hooks—Double 300—3 Position
9" Lift—Would include Crank Lever Stand, and Side Pump Lever. But no Lingoes or Harness.

**2 JACQUARD MACHINES** — item 13226
600 Hook—Single Lift

# COLLINS & AIKMAN CORP.
*SALES AND SALVAGE DIVISION*

5th and Upland Avenue — PHONE CHESTER 3-4167 — Upland, Delaware Co., Pa.

1—TENSITROL WASH RANGE — 1948; RH Tensitrol Washer 72", 25 rolls, V.V.I. Stainless Steel 3 drum Setter, 3 V.V.I Duplex Washers, Brown control, complete.

1—Van Vlaanderen Pneumatic Embossing Calendar, 54", 2 rolls, auto. roll reset, 7-ton pressure, Treebark pattern, Age 1950.

1—PADDER - TENTER - PALMER RANGE; V.V.I. Pneumatic Padder, 2 rubber rolls 20" dia. x 70" wide, V.V.I. Tenter Frame 65" x 50' long, V.V.I. Jacketed Palmer 64" x 60", Age 1950.

1—TENTER-PALMER RANGE; V.V.I. Tenter Frame 65" x 50' long. V.V.I. Jacketed Palmer 64" x 60", MG Unit and D.C. motor, Age 1950.

1—TENTER-HOUSING-PALMER RANGE; V.V.I. Tenter Frame 65" x 60' long, National Housing 30' long, V.V.I. Jacketed Palmer, Age 1950.

1—Van Vlaanderen Stainless Steel Duplex Dye Box, 6' wide, 1947.

1—Portland Stainless Steel Enclosed Dye Box, 14' wide, 1950.

1—Morrison Heat Setter 70" wide, A&G housing, Brown controls, 1950.

2—Van Vlaanderen Decatizers, 45" and 60" wide, blankets, motors and pumps, 1948.

1—Birch Suction Extractor 72", Nash L6 pump, Scutcher, 1948.

4—Van Vlaanderen Vari-Speed Beamers 70" wide.

4—Hi-Speed Inspection Tables; 3 Progressive 72" wide, 1 Hermas 66" wide.

**LIQUIDATION SALE OF FINISHING & PRINTING PLANT**
**OPAL PROCESSING CO.—HALEDON, N. J.**

5—Rice, Barton & Fales Print Machines, 10 colors—58", 8 colors—58", 8 colors 50", 6 colors—45", 4 colors—46".

1—Stainless Steel Slack Rope Washer, Age 1948, 54' long x 14' wide, 58 sections, 30" deep.

Other Equipment including: Tenter Frames, Tubers, Decatizer, Palmer, Loop Dryers, Mandrel Jack, Mixing Kettles, Vat Agers, Dry Cans and Washers.

*Write for Complete Brochure*

REPUBLIC TEXTILE EQUIPMENT CO.
0 WORTH STREET NEW YORK CITY
Purchase and Sale of Used Machinery
REFINANCING • APPRAISALS • PURCHASE • SALE • LIQUIDATION OF MILL PROPERTIES

**LIQUIDATING—For Immediate Removal**
***PARTIAL LISTING***

4—Butterworth 80' Pin Tenter Frames, 60" & 108", Electric Grinders, etc. Motor Drive.
1—R.B.&F. 2 Color Print Machine, 45" Face.
1—P&W 50" semi Decator, Pump & Motors, New Blanket.
10—72" x 23" S.S. Dry Cans, Ball Bearing.
1—Butterworth 50" Padder 2-16" dia. Rubber Rolls, Ball Bearing. Motor.
1—V.V. 54" Silk Embosser, 2 Rolls.

**INDUSTRIAL PRODUCTS OF AMERICA**
140 Market Street — Paterson, New Jersey
SHerwood 2-6614-5-6 — Cables: Texindus
*We welcome your inquiries*

**FOR SALE!**

1—W-3 5 section Waste Machine
3—Saco-Lowell 5¼" gauge Twisters
1—Draper 5" gauge Twister
1—Curtis & Marble 60" Inspector
1—Morrison 50" Silk Calender
1—7-Roll 46" Hydraulic Calender
3—Dinsmore Portable Sewing Machines
1—Kent 3-roll Paint Mill

James E. Fitzgerald — 10 PURCHASE ST., FALL RIVER, MASS. Telephone 8-5616
SPECIALIZING IN BLEACHING, DYEING AND FINISHING MACHINERY SINCE 1920

## News of the Month

(*Continued from page 254*)

trols stability, improves the hand, and permits the knitting and dyeing of much longer lots.

### 40-LOOM WORKLOAD

A 40-loom instead of a 20-loom job load has been set up at the Pequot sheeting mill of Naumkeag Steam Cotton Co., Salem, Mass. The load was set up by Sidney A. Wolff of New York, a lawyer acting as an impartial arbitrator.

Mill men wondered why the load had been set at 40 looms when 50 looms were called for as the proper load by impartial time and workload studies. New England weavers are thus still handling 10 looms less than cotton weavers on similarly equipped looms in the South.

### COTTON RESEARCH DISCUSSION

Methods of generating a greater volume of cotton research aimed at improved consumer products will occupy a prominent place in discussions at the National Cotton Council's fifteenth annual meeting in Dallas, Texas, on the 26th and 27th of this month.

From the laboratories have come processes for making cotton flameproof, crease-resistant, and shrinkproof, the Council emphasizes. The industry has developed new cotton weaves and textures. And in the recent past we have learned that it is possible to treat cotton chemically so that the final product little resembles the original cotton fiber.

The Council's delegate-members will receive a complete report on research progress at the Dallas meeting. Plans will also be laid for strengthening cotton research programs during the year ahead.

### IMPROVED WOOL-WAX RECOVERY

Greatly increased recoveries of wool wax from scouring liquors are now possible with a much improved process devised by the division of industrial chemistry of the Australian Commonwealth Scientific and Industrial Research Organization.

With the new method, recoveries of between 50 and 70% are easily obtainable, whereas present Australian procedures result very frequently in a recovery of less than 20%. The high recoveries reduce extraction costs. The process has further advantages in low capitalizations and in the small

(*Continued on page 278*)

# FOR SALE

## PARTIAL LIST---IMMEDIATE DELIVERY

### DYEING AND FINISHING

1 Economy #60F BALER down stroke type M.D.
1 Simpson BATCHER 54" with cutoff knife
1 BATCHER 2 roll, 72" B.B.
1 P&W BRUSH & SANDING UNIT, 4 roll, 66"
1 Van Vl. BUTTON BREAKER 50", 19 brass B.B. rolls, M.D.
1 Pernick Knit Goods CALENDER 42", Steamer, Spreadder, Blower, M.D.
1 Granger Friction CALENDER, 3 roll, 43½" face, screw set
2 C&M CHINCHILLA MACHINES, 80", movable platens 11"x81"
1 P&W SEMI DECATUR, 72"x36" pump, motor, etc.
1 Windle DOUBLING AND WINDING MACHINE, 66"
1 P&W Springfield model DOUBLING, WINDING & MEASURING MACHINE 66" M.D.
1 Schofield horizontal DOUBLING & WINDING MACHINE, 80"
1 Pegg Pulsating Skein DYEING UNIT S.S. 26 pole
1 P&S Skein DRYER, continuous type, fans, controls, motors, etc.
1 R&L Pin Tenter DRYER 1942 model, 86" cloth, 10 pass unit holding 42 yards
1 Tolhurst EXTRACTOR 48" copper basket, safety cover, timer, V-belt underneath drive
1 E&H FOLDER 52", air lift one yard M.D.
1 C&M FOLDER 60", silent chain drive, one yard fold M.D.
2 Ceiling Swing FOLDERS 90" adj., M.D.
1 C&M INSPECTING MACHINE 96" wide, measuring clock, folder, recorder, M.D.
1 Pedlow S.S. Dye JIGG B.B. 80" M.D.
1 Morrison KIER PILER, portable type, M.D.
1 Starch MANGLE, 2 roll, top rubber, bottom brass, 51-¾"
2 Quaker City MIXING KETTLES, 26" x 27", pumps and heating coils
1 D&F NAPPER 14 roll S.A. 72", M.D.
1 D&F NAPPER 12 roll, S.A. 80", M.D.
1 Woonsocket Felting NAPPER, 22 roll, S. A., 80", M.D.
1 Gessner NAPPER, 18 roll, D.A., 78", M.D.
1 D&F NAPPER, 24 roll, D.A., 86", M.D.
1 Gessner NAPPER, 90", D.A., 18 roll, M.D.
2 Woonsocket NAPPERS, 20 rolls each, S.A., 90" (hooked in tandem) M.D.
1 Voelker Cloth PRESS 66" double bed V-belt, M.D.
1 Van Vl. QUETCH, 2 rubber rolls, 50", S.S. Size Pan, V-belt drive
1 Van Vl. QUETCH, 3 roll, 2 brass—1 rubber, 50", V-belt drive
1 Van Vl. QUETCH, 2 roll rubber and brass, 65", copper size pan, S.S. overhead Dry Can, M.D.
1 Dinsmore Rotary Portable SEWING MACHINE, Merrow 60D3B Head, M.D.
1 P&W SHEAR, flat blade, double cutter, 66" M.D.
1 P&W SHEAR, 4 blade, 60" cut, auto. seam-let-thru attachment, B.B. equipped, M.D.
1 C&M SHEAR, flat blade, single cutter, 66", M.D.
2 P&W SHEARS, wool type 66½", double cutter, M.D.
1 P&W Davidson SHEAR, 72", double cutter, B.B. equipped, M.D.
1 Johnson SLASHER, 5 drum 52", size box, M.D., etc.
2 SQUEEZE SETS, 3 roll units, 60-¾" top and bottom S.S. rolls, middle rubber
3 SQUEEZE SETS, with rubber rolls, 18" x 18" porcelain poteyes
2 Pair of New SQUEEZE ROLLS, rubber covered 90" face x 12⅛" and 19¼" dia.
2 Schiffer Wet TEASEL GIGS, single cylinders, adjustable contact, 62" wide
2 C&M Cloth WINDERS 50"-60" measuring attachments
4 R&H WASHERS 11' units, S.S., 3 comp. enclosures, motors, etc.

### OPENING THROUGH WINDING

2 P&S DUSTERS, model #550, beater section 70"x38"
2 Burr PICKERS 24"-36" with fans
2 D&F Mixing PICKERS 48" 6 bar units, 4 feed rolls
1 D&F Iron Fearnaught PICKER 48" x 48", workers, strippers, etc.
1 P&S Waste Puller 48" x 48"
1 Whitin PICKER FEED, 60" model EL, large hopper
2 D&F CARDS, 3 cyl. 48"x60" Tape Condensers, 120 ends, M.D.
1 D&F Iron 60"x60" single cylinder CARD, New, feeder, breast, M.D.
2 D&F Tape CONDENSERS, 60", 4 bank, 96 end
1 Knowlton & Newton Ceiling CONDENSER, 46" face x 24" diameter
2 Whitin CONDENSERS, return air upright type, 1951 model, cylinders 72" x 37" diameter.
4 S&L Ceiling CONDENSERS, cylinders 36"x18" self-contained fan type
8 Whitin Scotch Broadband FEEDS 48", with J-1 Conveyors
1 Hunter GARNETT, 3 cylinder 30"x60" with Bramwell Feeder, breast section, B.B. fancies, 26" doffers, metallic wire thruout
198 Draper XK LOOMS 42", M.D.
90 C&K C4 LOOMS, 72" 4x4 box, M.D.
68 C&K W1 LOOMS, 82" auto. 4x1, M.D.
18 C&K LOOMS, 92" auto. 4x1, M.D.
4 Kitson Rag PICKERS, 18"x38" diameter cylinders
1 Whitin Wool SPINNING FRAME, 3" ring, 180 spdls., M.D.
2 F&J TWISTERS, 132 spdls. ea., 4½" ring, Tape drive
1 S&L TWISTER, 100 spdl. unit, 6" ring, tape drive
1 F&J TWISTER, 60 spdls., 5½" ring, tape drive
1 Cocker Hi-speed WARPER, 54¼" M.D. with 800 end Magazine Creel
1 Foster model #101 Cone WINDER, 100 spdls., M.D.
2 D&F WARP REELS, brass plate, 82", beamer, compressor, etc.

**McDOWELL ASSOCIATES, Inc.**
2568 Park Avenue Bronx 51, New York
Tel.: MElrose 5-6741

**COMPLETE**

**NARROW FABRIC**

**WEAVING PLANT**

**Weaving 1/4" to 9/16" Inclusive**
**(80 Looms)**

LOOMS
WINDERS
WARPERS
REELERS

*Immediate Delivery*

For Export Only

**FS-6028,** Textile World
330 W. 42 St., New York 36, N. Y.

# LIQUIDATING

## RIVERVIEW FINISHING CO., PATERSON, N. J.

1—P.S. 8-fan Loop Dryer, revolving sticks, 105" wide, 60' long, late type
1—V.V. 54" Embosser, 2-roll
5—12' S.S. Dye Becks
1—Hennekens Boil Off, new 1948
1—V.V. Boil Off
1—60" Singeing Machine
2—60" Eastwood Floppers
1—V.V. Decatizers
4—Tenter Frames, 60'—50'—40'—30', S.S. clips
2—V.V. 3-roll Calenders, 60"—50"
2—60" Werner 2-roll Padders
3—Beamers, 76"—55"—50"
2—Copper Jacketed Mixers, 200 gal. and 75 gal.
4—Tubers and Folders, 64"—50"
2—50" Inspection Machines
4—Merrow Sewing Machines
2—Metropolitan Sewing Machines
3—Extractors 2—60", 1—48"
1—V.V. 50" Scutcher
1—Rope Washer—8 Compartment
4'—6'—8'—10'—12' Wooden Dye Becks
1—MacBeth Color Matching Lamp, new 1950
4—Sets of Mt. Hope Grinders
3—77" All S.S. Jiggs
4—60" Verduin all S.S. Jiggs
2—60" S.S. Lined Jiggs
1—50" Werner 2-roll Padder
1—V.V. 64" Palmer & Quetch
6—Textile Squeeze sets, 96" long, 2-rubber rolls 19" and 12" dia., roller bearings
1—Set 8 Copper Dry Cans 84"
1—Set 15 Dry Cans 72", 6—S.S., 9—Copper
1—Set 6 Copper Dry Cans 50" x 30" dia.
2—50" Wooden Expanders

**FOR ALL INFORMATION—WRITE, WIRE OR CALL**

**A & M BLANK CO., INC.**
301-313 East 22nd St. (at 7th Ave.) Paterson, N.J.
SHerwood 2-1367-8

# BIALEK'S BEST BUYS

46" Draper "XD" Dobby, 1950
50" Draper "XD" Dobby, 1948
58" Hermas Shearer, 1951
Abbott Quillers, 1950-51
Cocker Warper, Creel, 1948
Warp Knotters, LS, 1948-49
Terrell Stripper, Conveyor
Johnson 3-Arm Soaking Bahnson Humiducts
Royle Card Cutting

Johnson Slasher, 60x30, Cotton System, Stainless Steel, 7-Drum
60" C&K 4x4 Looms with or without 1304-Hook Halton Jacquards, Harnesses
56" 5-3 2x1 Auto. Shuttle Change
44" XK Dobby and Cam Looms
101" Sipp Warper, Creel

**THEODORE BIALEK & CO.**

6704 EMPIRE STATE BLDG.
NEW YORK CITY
LONGACRE 3-4978

396 STRAIGHT ST.
PATERSON, N. J.
LAMBERT 3-5886

FOR SALE

30—Tinned steel dry cans 23" dia x 120" face bucket type gear driven friction bearings upright or horizontal frames.
20—Copper dry cans 23" dia x 44" face bucket type gear driven friction bearings upright or horizontal frames.
15—Copper dry cans 23" dia x 100" face steel heads gear driven.
5—7' slashers 58" face bucket type.
5—5' slashers 58" face bucket type.
2—5' slashers 38" face bucket type.

We can supply one dry can or as many as your needs may be. We fabricate new copper or stainless steel dry cans any width. Dry can machines built to your specifications.

Write • phone • wire
296 Lincoln Ave.

**EASTERN TEXTILE CO.**
*New and Used Finishing Machinery*
*Specializing in Dry Can Machinery*

Tel. 33228
Fall River, Mass.

S&K

# Where your $$$$ buy MORE

## SILK WEAVING C & K AUTO, 2 x 1 60 LOOMS

COMPLETE PLANTS—PLASTIC SEAT COVERS C & K AUTO, LOOMS 82"

300 Auto Drapers 43" to 76" cloth
16 C & K Auto Bob Changers 2 x 1—72" R.S.
140 5-3 C & K 52" R.S. shuttle changers
12 C & K 4 x 4—54" R.S.
40 C & K Woolen looms 72" to 110" R.S.
1000 Electro Rods 66" to 133"

**36 LOOMS**
**W3-CONVERTIBLE, 4x1**
**C & K 82" AUTOMATIC**

**20 W2 82" AUTOMATIC 4x1**

1 V.V. 40'-60" Tenter Frame, Enclosed Gears
1 V.V. 60'-66" Palmer Tenter Unit, Complete
1 36" Self Balancing Extractor
1 W&J Tenter Frame 90" W 30' L
1 W&J Tenter Frame 54" W 30' L
1 2 Roll 60" Quetch
1 Ager 60" 48 rolls 20' long
1 60" Self Balancing Extractor
1 Set of 8—68" Copper Cans
1 New 80½ Beamer
1 80" wide Pin Tenter Frame 20'
1 Paterson Examiner, 72" wide
1 72" Park Woolson Decater
1 Set 18 Dry Cans 48" face, 5 stainless steel, 13 iron tinned with reeves
8 Dye Boxes S.S. lined 8'—10'—12'
1 Jostrom fabric conditioner 64"
1 19 can Butterworth dryer 72"
4 Three (3) Roll Padders 45"
30 50" Dry Cans
3 Johnson Slashers 7—5—3 Can 66"
1 Cocker Slasher 5 Can 57"
1 Set 17 Can Butterworth 132" S.S. B.B. Motor and Reeves Drive
1 72" Greige Washer with Squeeze Rolls 24' long
5 Atwood 5B Twisters
9 Atwood Single Deck Utility Spinners
8 Sipp Warpers and Winders
20 #90 Universals
4 Oswald-Grundy 46—Spindle Cop Winders
5 Foster-Coners 75A Hy-speed Sippwarper

**STAVE & KESSLER**
106 KEARNEY ST. P. O. Box 1611 Paterson, N. J.
Phone ARmory 4-7486


(*Continued from page 276*)
amount of labor required in the operation of the plant.

Scouring liquors containing the wax are fed progressively through a battery of cells fitted with impellers that concentrate the wax on the surface of air bubbles. A stable froth of high wax content forms at the top of the cells, and the concentration of the wax increases as the froth is propelled through the battery. The wax is then recovered from the froth by centrifuging after dispersal in alkaline solution.

After most of the recoverable wax has been floated off, the residual liquors may be returned to the scouring bowls and their soap and soda content used again.

## N. E. WAGE DISCUSSION

A collective bargaining policy for more than 150,000 CIO textile workers in about 550 Northern mills will be determined at conferences in Boston during the week end of January 10 and 11.

Delegates representing about 60,000 employees in about 150 woolen and worsted mills will meet Jan. 10. On the following day representatives of more than 90,000 cotton-rayon workers in 400-odd mills will assemble. Most of the plants in each group are in New England.

The cotton-rayon contracts expire on March 15 of this year. Most woolen and worsted mill contracts run a year longer but are subject to wage reopening this March.

Present average hourly earnings in Northern cotton-rayon mills are $1.37 an hour. The minimum wage is $1.12½. Equivalent woolen and worsted mill figures are $1.62½ and $1.32½.

## IMPROVED SNAG-RESISTANCE

A lock-stitch, 90% snag-resistant nylon stocking with an approximate bursting point of 40 lb., 15 lb. higher than regular 15-den. nylon hosiery, has been developed by Vogue Mfg. Co., West Chester, Pa. When small snags are made in the stocking, they can be pulled taut and will disappear.

If a large pull occurs, it can be snipped. The yarns tend then to work themselves back into position in the stocking and leave only a tiny mark discernible. Larger breaks or holes cause the stocking to run as usual.

## WARP KNITTERS MEET

More than 30 delegates representing warp-knit fabric manufacturers

(*Continued on page 280*)

# 20 UNIVERSAL # 250 SIZING MACHINES

120 SPINDLES SET UP ON MILL FLOOR, NEVER USED. COMPLETE WITH MOTORIZATION & SIZING INSTRUMENTS . . .

# 1 FOSTER # 76-25 SPINDLES SIZING UNIT

MOTORIZED, EXCELLENT CONDITION . . . COMPLETE WITH SIZING TUBES . . .

# 23 ATWOOD ½ LB. TWISTERS

COMPLETELY REBUILT IN 1949 — DOUBLE DECK

2 Motor Machines, 220 Spindles. Each Completely Rebuilt With Heavy Duty Swing & Spindle Assemblies . . . Suitable For Nylon. Complete with Bobbins.

# 9 ATWOOD 2 DECK TWISTERS

UTILITY 12-14 OZ. — 240 SPINDLES 2 MOTOR

LARGE PACKAGE MACHINES SUITABLE FOR NYLON WORK. BOBBINS AVAILABLE WITH MACHINES.

# 10 U. S. TEXTILE 1 LB. DOUBLE TWISTERS

110 SPINDLES

4" RINGS, MOTORIZED.

# 40 DRAPER 1948 64" XD LOOMS

NEW LIKE

# 50 UNIVERSAL # 50 GEAR GAIN CONERS

*MILLIONS & MILLIONS OF BOBBINS*

| | | | | |
|---|---|---|---|---|
| 30 M | FIBRE HEAD 3⅞" | —4½" TRAV. 1½" BAR | Warp or Redraw Winder Spinner | 1 LB. PACKAGE |
| 60 M | FIBRE HEAD 2⅞" | —4" TRAV. 1" BAR | | ½ LB. PACKAGE |
| 8 M | ST. STEEL HEAD 4½" | —4⅜" TRAV. 2" BAR | Hollow Gud. Take Up | 1 LB. PACKAGE |
| 50 M | AL HEAD 3⅜" | —3¼" TRAV. 1¾" BAR | Hollow Gud. Take Up | ½ LB. PACKAGE |

# COMPLETE NARROW FABRIC DEPARTMENT

FLETCHER LOOMS & PARTS, BATTENS, BEAMS, WEIGHTS. #10 QUILLERS, ETC.

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WRITE — PHONE — WIRE

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## Textile Machinery and Supplies

**BOUGHT AND SOLD**

**Warpers • Winders • Quillers**

**Looms**

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## UNIVERSAL #50 WINDERS

**REBUILT** — **GUARANTEED**

Coners, tubers, pineapple coners built to your specifications.

*ALSO*

Universal #90's
2—Sargeant Ballers
Calender, 72", hydraulic
Cutters, chenille

2—Dusters, Iron, 8' & 10'
1—Dyer, Buhlmann, 62 arm
2—Shears, 84"
2—Washers, dolly, 72" & 90"

**GAINES TEXTILE MACHINERY CO., INC.**

141 West 17th St. — New York, N. Y.

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## PRICED FOR QUICK SALE

400M Flat Steel Heddles 14" 3⅝" eye
200M Wire Heddles (Steel Eye) ⅝"
360 Heddle Frames 82" x 14" hd. (Metal Ends)
240 Heddle Frames 70" x 14" hd. (Metal Ends)
1M Heddle Frames 74 x 14 hd. (Metal Ends) new

**BOBBINS**

2M 8v4 Wor. Ring Rov. Bobbins
5M 9x5 Wor. Reducer & Slubber Bobbins
2M 10x5 Wor. Cone Reducers
6M 12x6 Wor. Finisher
2M 12x6 Wor. Cone Finisher
1M French Drawing Shells
200M 8-¾" A.L. Bobbins (Selected)

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Practically New Continuous Automatic Acid Control-Leeds and Northrup #43611-C6-T-A1 including indicating and recording controller, valve drive mechanism, valve and two conductivity cells.

FS-6227, Textile World
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## REDUCED PRICES — NEW TEXTILE MOTORS

**IN ORIGINAL CRATES—ALL 60 CYCLE 3 PHASE**

| Make | HP | RPM | Voltage | Frame | Shaft | Type | Quantity |
|---|---|---|---|---|---|---|---|
| General Electric | 15 | 1800 | 550 | 326 | Straight | Screened | 36 |
| Allis-Chalmers | 15 | 1800 | 550 | 326 | Tapered | Textile | 177 |
| Westinghouse | 15 | 1800 | 550 | 326 | Tapered | Textile | 184 |
| Louis Allis | 15 | 1800 | 550 | 326 | Tapered | Textile | 35 |
| Diehl | 15 | 1800 | 550 | 326 | Tapered | Textile | 36 |
| Allis-Chalmers | 15 | 1800 | 220/440 | 326 | Tapered | Textile | 65 |
| Westinghouse | 10 | 1800 | 220/440 | 324 | Tapered | "CSP" | 25 |
| Westinghouse | 10 | 1200 | 550 | 326 | Straight | "CSP" | 27 |
| General Electric | 10 | 1200 | 550 | 326 | Straight | Screened | 21 |
| Westinghouse | 10 | 1200 | 220/440 | 326 | Straight | Textile | 11 |
| Louis Allis | 10 | 1200 | 220/440 | 326 | Straight | Textile | 14 |
| Westinghouse | 5 | 900 | 550 | 324 | Straight | "CSP" | 19 |
| Westinghouse | 5 | 900 | 220/440 | 324 | Straight | Screened | 19 |
| Westinghouse | 3 | 1200 | 220/440 | 254 | Tapered | Textile | 23 |
| Westinghouse | 3 | 900 | 550 | 284 | Straight | Screened | 43 |
| Westinghouse | 3 | 900 | 220/440 | 284 | Straight | Screened | 26 |
| General Electric | 3 | 900 | 550 | 284 | Tapered | Textile | 38 |
| General Electric | 2 | 1800 | 550 | 225 | Tapered | Textile | 18 |
| General Electric | 2 | 1200 | 220/440 | 225 | Straight | Tri-Clad | 30 |
| General Electric | 2 | 900 | 550 | 254 | Straight | Textile | 24 |
| Westinghouse | 2 | 900 | 550 | 254 | Straight | Screened | 16 |
| Louis Allis | 2 | 900 | 550 | 254 | Straight | Textile | 14 |
| Louis Allis | 1 1/2 | 900 | 550 | 254 | Straight | Textile | 12 |
| Westinghouse | 1/2 | 1800 | 550 | 186 | Straight | Tot. Encl | 40 |

**AJAX** ELECTRIC MOTOR CORP.
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Write, Phone or Wire for Price and Discount

**REBUILT MACHINERY FOR IMMEDIATE DELIVERY**

1—72" Parks & Woolson Decatizer, Pump & Motor.
1—Butterworth Clip Tenter 40' x 72", Stainless Clips, Reeves & Motor.
1—Hinnekens, 60" Variable Speed Examining & Tubing Machine.
1—Elliot & Hall 54" and 60" Flat Folders.
2—W.J. Tenter Frames, 30' x 54".
1—W.J. Tenter Frame, 30' x 96'.
1—3 roll silk or rayon Calender, M.D.
1—42" Self Balancing Extractor, M.D.
2—150 gal. Jacketed Kettles with agitators.
1—Set of 21-72" x 23" Dry Cans Horizontally.
1—72" Hydraulic Padder, M.D.
1—Set of 9—20" x 60" Heavy Steel Dry Cans.
1—50" V. V. Button Breaker.
1—Johnson 7 Can Slasher.
1—64" Van Vlaanderen motor driven Tuber.
1—60" Verduin 40 ton Hydraulic Calender.
2—60" motor driven Beamers.
4—Hermas measuring & inspecting machines, tube to tube.
1—60" Measuring, Inspecting & Tubing Machine, tube to tube, new, variable speed, forward, neutral & reverse.
30-60 gallon copper steam jacketed Kettles.
1—Hinnekens Boil-off Machine.
1—Sterling 7½ H. P. Vari-drive.
1—Reeves 7½ H. P. Vari-drive.
About 5,000 S. S. high speed V. V. Clips.
Agitators of various sizes.
Motors of various sizes.
New & Used Electric Hoists.

**8—60" Verduin, Stainless Steel, Motor Driven Jiggs**
**2-3 ft. 2-8' 1-10' 1-14' Stainless Steel Lined Dye Boxes**
**New Copper Rollers 16" x 60" wide, W Bore**

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Moe Blank
DOMESTIC — EXPORT
TEXTILE DYEING & FINISHING MACHINERY MACHINERY
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**COMPLETE THROWING MILL FOR SALE**

1 H & W YARN CONDITION BOX — CONTROLS & 2 TRUCKS
100 No. 50 UNIVERSAL CONERS—COMPLETE SUPPLY OF PARTS
30 No. 75 FOSTER CONERS — S.S. EMULSION TROUGHS & ROLLS—3"30' TAPER
SPOOLS, BOBBINS & QUILLS—ALL SIZES & TYPES

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**50 H&B COTTON CARDS 37"**
**and complementary 37" picking equipment**

1—BARBER-COLMAN CHEESE CREEL VC-318 468 end almost new
1—UNIVERSAL 400 end MAGAZINE CREEL, Single Post Tensions
275—DRAPER E LOOMS 42" dbl. Fork, 46" Sand Roll Belt Drive
5—FOSTER #12, #30, UNIVERSAL 60GF WINDERS
1—SCOTT TESTER, MODEL J, YARN & CLOTH, New 1948

LIQUIDATING NARRAGANSETT MILLS, FALL RIVER, MASS.

**MACHINERY SALES CORP. NEW BEDFORD, MASS.**

**HOSIERY MACHINES**
*used and rebuilt*
KNITTERS—RIBBERS—LOOPERS—CYLINDERS—DIALS—TRANSFERS
HOSIERY NEEDLES AND PARTS
JOS. BRESANI
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**BROWNELL TWISTER FOR SALE**
96 Spindle Brownell Twister (48 spindles each side). Each spindle individually motorized with 1/6 HP —220 V motor size 4" x 6" spool.
Complete with troughs for wet twisting, Dip Bars, Supply Tank, Creels, Pumps, Individual Motor Switches, etc.
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WORLD'S LARGEST INVENTORY
FREE CATALOG
MOTORS-GENERATORS-TRANSFORMERS
New and Guaranteed Rebuilt
ELECTRIC EQUIPMENT CO.
P. O. BOX 51, ROCHESTER 1, N. Y.


(*Continued from page 278*)

recently met at Marcus Hook, Pa., to discuss greater uniformity in nomenclature, testing methods, and agreements on tolerances. Several task committees were appointed to work out possible solutions.

## NAWWO ELECTION

The following men have been elected officers of the National Assn. of Woolen & Worsted Overseers for the new year: president, Francis Herbert, Yantic, Conn.; first vice president, William Neumann, Rochelle Park, N. J.; second vice president, George Pickett, Martinsburg, W. Va.; treasurer, Fred J. Liebold, Lowell, Mass.; assistant treasurer, Sullivan Gillette, Lowell, Mass.; secretary, James J. Burns, Holyoke, Mass.; and assistant secretary, Manual Silva, Torrington, Conn.

The semi-annual meeting in May will be held in the vicinity of Worcester, Mass., the specific time and place to be announced later.

## WARNER-SWASEY LOOM GIVEN

Two Warner & Swasey "weaving machines" have been presented to U. S. textile schools—one to Philadelphia Textile Institute, Germantown, Pa., and the other to Lowell Textile Institute, Lowell, Mass. The $10,000 loom for PTI-student instruction and use was presented by the American Woolen Co.

At LTI, Albert Wodzik of the school's weaving department has been specially trained by Warner & Swasey to facilitate the use of the loom in weaving classes.

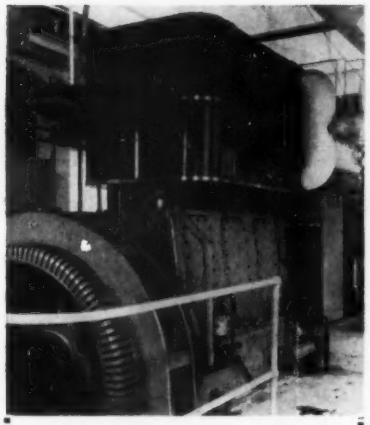
## NEW CARPET INSTITUTE HEAD

James G. Law, vice president and general manager of Magee Carpet Co., Bloomsburg, Pa., was recently elected chairman of the board of trustees of the Carpet Institute, New York, N. Y. He succeeds Frank E. Masland, Jr., president of C. H. Masland & Sons.

Newly elected to the board was Herbert Adair, president of Artloom Carpet Company, Inc. Re-elected to the board for another three-year term were: Joseph L. Eastwick, James Lee & Sons Co.; Frank E. Masland, Jr., retiring chairman; and Walter G. Campbell, Hardwick & Magee Co.

## MR. DOUTY HONORED

Daniel E. Douty, chairman of U. S. Testing Co., Hoboken, N. J., is the first recipient of the Textile Section, New York Board of Trade, bronze-plaque award.



# FOR SALE

## SKINNER UNIVERSAL UNAFLOW GENERATOR

Used very little. Installed in 1948 by prominent textile manufacturer. Present factory owner, non-textile, has no use for equipment. 750 KVA, 2-phase, 60 cycle, 480 volt, 320 R.P.M. Skinner Vertical Unaflow steam engine generator unit. Complete with exciter, switchboard panel and instruments. Priced right for quick sale. For detailed specifications and prices, contact

**Mr. Wm. DEMERELL**
Rockville, Connecticut
*Phone Rockville 5-3351*

# For Sale

## 2-1240 H. P. Badenhausen Boilers

Used during last heating season. Complete with coal pulverizers — motors — gas heat economizers. 100 H.P. centrifugal fan for each boiler. Makeup water pre-heater—100 H.P. steam turbine driven boiler feed water pump—Elliott open type deaerating feed water heater 1—300 K.W. A.C. Generator. Immediately available Philadelphia area.

FS-6171, Textile World
330 W. 42 St., New York 36, N. Y.

# FOR IMMEDIATE SALE

1—Davis & Furber Eight Coil Pipe Dressing Machine, practically new.

1—Warp Compressing Multiple Spooler with electric stop motion, 6 spools.

1—Davis & Furber Warp Reel, 92" with pinless attachments.

1—60" Saco-Lowell Slasher, complete with exhaust fan. Extra Equipment, Den Warper, Size Kettle and etc.

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## PREPARATORY

1—Sargent 42" Picker Feed
1—Hunter 7 section Raw Stock Dryer
2—D. & F. 48" Mixing Pickers
1—D. & F. 48" Fearnaught Picker
1—D. & F. all iron Cone Duster
1—Schofield 48" automatic Duster (box)
1—Woonsocket 36" x 36" ceiling condenser & blower
2—18" x 18" P. & S. Ceiling Condensers
1—"Parkhurst" 48" Burr Picker with Feed
1—Sargent 36" Duplex Burr Picker
3—Dodge, Schofield 18" Waste Pickers
1—Card Floor Grinder 60"
2—40" Stock Blowers, B.B.
1—Opening Pickers, 40"
2—Gerry 30" Lumpers

## WARPING AND WEAVING

4—D. & F. or Altemus Warpers—rebuilt to order—82"—120. Pin or Pinless
1—Globe Ball Warper & Creels
5—Draper 54" Mod. G Warpers
22—Tonner, C. & K., Plush Looms
12—C. & K. W-1 76", 4x1 Looms
4—C. & K. 92" 4x1 automatic Looms
4—C. & K. 82" 4x1 automatic Looms
36—C. & K. 82" (4x4) Box Looms
2—J. & G. Chenile Cutters

## WINDING

**Universal 50's & 90's Rebuilt.**

3—Foster Mod. 75 Cone Winders (like new)
1—Foster, Mod. 101 sp. Cone Winder
1—Foster Mod. 30 Skein to Cone Winder
2—J. & B. Jackwinders, 80 sp. & 120 sp.
10—Lindsay Hyde Adjustable Skein Reels
1—Whitin Quiller 2⅛" Gauge (long chain)
1—Lazenby 15 sp. Cop Winder
1—Sargent 16 sp. Balling Machine, 1948

## FINISHING

1—Kenyon Cloth Dryer 84" Max.
1—Gessner Mod. 20 Press, 1950
1—Gessner 72"x36" Semi-Decater, 1943
2—Birch Bros. & Tack. Mach. (92")
1—Birch 72" Scutcher & Vacuum
1—Roy 86" Napper Grinder
1—P. & W., 66" 4 cyl. Brush & Sander
2—Teasle Gig's, double cylinder (60")
1—Yorkshire Crab 72"—3 bowl
1—S/S Lined 60" Wetting-out Tank with squeeze rolls (Pneumatic Pressure)
1—P. & W. 66" Mod. A. Double Shears
2—Voelker 65½" D. B. Presses
6—Dry Cans Copper, 70"x36"
1—P. & W. 72" Steam Lustering Machine
1—P. & W. 66" Cloth Doubler
1—Cloth Measuring & Rolling Machine 80"
1—P. & S. Single Truck Skein Dryer

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# BUY WITH CONFIDENCE IN 1953

11—H & B Wet Twisters, 4½" gau, 3½" r, T.D.
1—Verduin 2-roll 50" Hydraulic Padder.
1—Werner 2-roll 60" Microset Dye Padder.
1—Hunter Willow, conveyor screw, metal trough.
1—Klenk & Miller 90" Slitter, knives.
1—McCreary Knit Goods Napper, 72" M.D.
1—48" Hemp Breamer, 48 Rollers.
1—Floor Apron Frame with apron 9' center x 90".
1—K&W Stainless Steel Raw Stock Dyer.
1—Set Infra Red Drying Ovens, Fans, Motors.

*We Buy From Single Items To Complete Plants.*

OUR 35th YEAR

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9 —Saco Lowell #34 Filters
14 —C&K Terry Towell Looms, for 34" Goods
25 —16" Kirschner Beaters for Saco Lowell & Kitson Pickers
14M—Saco Lowell T-4 spindle assemblies
30 —¾ HP Loom motors, 220 volts, 1750 RPM
5 —#7 Sturtevant Fans

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Behind Barbeque Lodge

# TEXTILE AUXILIARIES

**Excellent Reconditioned Machinery in Stock for Immediate Delivery**

3—Three Ton Allen Kiers with pumps and heaters
10—Bleach House Squeezers, 18" x 18" rubber rolls
10' Bleach House Tight Washers
New Infra Red Singers, from 50" to 140"
1—20" x 50" 1949 Butterworth Short Tenter
1—80" x 60" Butterworth Swing Tenter Frame
2—60" and 65" 2 roll heavy duty Embossing Calenders
2—50" Silk Yard Folders
1—60" Beamer
1—60" Greystone Hydraulic Batcher, also single and two roll Batchers 50" and 60"
1—20 Ton 72" Hunter Hydraulic 2 roll Padder
2—10 Ton 65" Morrison Hydraulic Padders
Also, 50" to 120" 2 and 3 roll Padders
Also, A.C. and D.C. Motors from 1 H.P. to 100 H.P. and Generators
Copper Dry Cans with vertical or horizontal stands, from 40" to 132", from single Can to any amount in sets

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**PROVIDENCE, R. I.**

# "she might have been my kid..."

"There was no time to stop, see? She comes running out from behind this parked car right under my wheels. Her hair is in pigtails, and with the sun shining on it, she might have been *my* kid. We got her to the hospital. It took 3 pints of blood to bring her around. All I have to do is remember the sound of those screaming tires—and I know why *I'm* giving blood."

Yes, all kinds of people give blood—truck drivers, office workers, salesmen. And—for all kinds of reasons. But whatever *your* reason, this you can be sure of: Whether your blood goes to a local hospital, a combat area or for Civil Defense needs—this priceless, painless gift will some day save an American life!

**Business Executives!**
**✓Check These Questions!**

If you can answer "yes" to most of them, you—and your company—are doing a needed job for the National Blood Program.

- ☐ Have you given your employees time off to make blood donations?
- ☐ Has your company given any recognition to donors?
- ☐ Do you have a Blood Donor Honor Roll in your company?
- ☐ Have you arranged to have a Bloodmobile make regular visits?
- ☐ Has your management endorsed the local Blood Donor Program?
- ☐ Have you informed your employees of your company's plan of co-operation?
- ☐ Was this information given through Plant Bulletin or House Magazine?
- ☐ Have you conducted a Donor Pledge Campaign in your company?
- ☐ Have you set up a list of volunteers so that efficient plans can be made for scheduling donors?

Remember, as long as a *single* pint of blood may mean the difference between life and death for *any* American . . . the need for blood is *urgent!*

**Give Blood Now**

***CALL YOUR RED CROSS TODAY!***

***NATIONAL BLOOD PROGRAM***

# Index to ADVERTISERS Keyed by PRODUCT

**A HELP TO YOU.** The reader will find that this unique TEXTILE WORLD index, particularly if consulted for two or more consecutive issues, affords a surprisingly complete source of information on the latest products and services available to the textile industry. Its comprehensiveness is the result of the fact that TEXTILE WORLD, having the largest circulation and highest readership of any textile-mill magazine in the world, carries the largest volume of advertising.

**HOW TO USE.** First, look in the table below and find the letter that designates the class of supply or service that you currently need. Then consult in the index the page numbers that are followed by that letter.

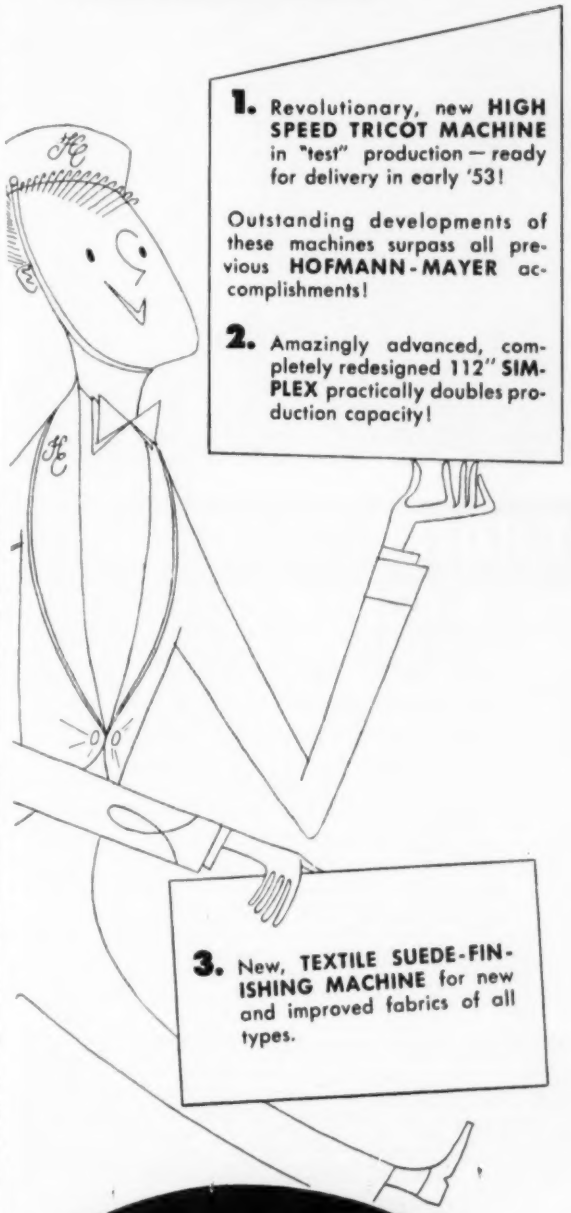
A. Air Conditioning, Air Cleaning
B. Building Construction and Maintenance, Paints, Yard Equipment, Water Supply
C. Chemicals and Dyestuffs
D. Cleaning Equipment
E. Dyeing, Finishing, and Cloth-Room Equipment and Supplies
F. Electrical Equipment—Motors, Controls, Lighting, Etc.
G. Fibers, Yarns, Mills, Finishing Companies
H. Fluid Handling—Compressors, Pumps, Piping, Valves, Fittings
K. Instruments: Measuring, Metering, and Weighing Apparatus
L. Knitting-Mill Equipment and Supplies
M. Lubricants and Lubrication Equipment
N. Management Services—Factors, Consulting Engineers, Insurance, Personnel Facilities, Plant Sites, Etc.
O. Materials and components for Machinery and Equipment
P. Materials Handling, Packaging, and Shipping Facilities
Q. Power Generation and Transmission (see also Electrical Equipment)
R. Weaving and Warp Preparation Equipment and Supplies
T. Yarn-Production Twisting, and Winding, Equipment and Supplies

An * indicates additional data in the 1951-52 Pre-Filed Textile Catalog. This index is published as a convenience to the reader. Great care is taken to make it accurate, but Textile World assumes no responsibility for errors or omissions.


| | | |
|---|---|---|
| Acme Knitting Mach. & Needle Co. | 229 | L |
| Akron Spool & Mfg. Co. | 264 | R |
| Aldon Spinning Mills | 265 | G |
| Alemite Div., Stewart-Warner Corp. | 144 | M |
| Allis Co., The Louis | 185 | F |
| *Allis-Chalmers Mfg. Co. | 30-31 | F Q |
| American Air Filter Co., Inc. | 199 | A |
| American Blower Corp. | 38 | A |
| American Crayon Co. | 265 | E L R |
| American & Efird Mills, Inc. | 270 | G L |
| *American Lava Corp. | 183 | L RT |
| American Lumber & Treating Co. | 192 | B |
| *American Moistening Co. | 8 | A |
| *American Monorail Co. | 34 | D |
| American Steel & Wire Div. | 66 | O |
| American Viscose Corp. (Yarns) | 231 | G |
| Antara Chemicals Div., General Dyestuff Corp. | 20 | C |
| *Armstrong Cork Co. | 70-71 | T |
| *Arnold, Hoffman & Co. | 33 | C T |
| *Atkinson, Haserick & Co. | 21 to 25 | T |
| Atlantic Rayon Corp. | 234 | G |
| Atlantic Steel Co. | 212 | O |
| Atlas Electric Devices Co. | 260 | K |
| *Bahnson Co. | 191 | A |
| *Barber Colman Co., Textile Div. | 263 | R |
| Barnes Textile Associates, Inc. | 262 | N |
| Bausch & Lomb Optical Co. | 228 | N |
| *Becco Sales Corp. | 153 | C |
| Benjamin Electric Mfg. Co. | 57 | F |
| *Bersworth Chemical Co. | 229 | C |
| *Blickman, Inc., S. | 241 | E |
| Boger & Crawford | 173 | G T |
| *Booth Co., Benjamin | 157 | T |
| *Brinton Co., H. | 134 | L |
| Bryant Chemical Corp. | 140 | C |
| Buffalo Electro-Chemical Co. | 153 | C |
| *Buffalo Forge Co. | 64 | A |
| *Butterworth & Sons Co., H. W. | 132 | E |
| *Caldwell Co., W. E. | 272 | B E |
| Carpenter Steel Co., Alloy Tube Div. | 60 | H O |
| *Carter Traveler Co., Div. of Carter Inc., A. B. | 284 | T |



# 3 IMPORTANT MESSAGES!



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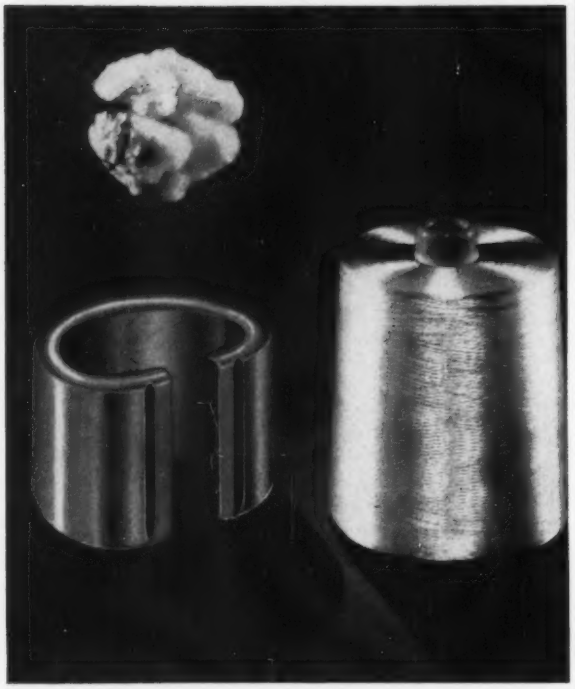

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|---|---|---|
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| Yarn Div. | 223 | G |
| Century Electric Co. | 39 | F |
| Cities Service Oil Co. | 176 | M |
| Clark Equipment Co., Industrial Truck Div. | 210 | P |
| Cleveland Worm & Gear Co., The | 55 | Q |
| C-O-Two Fire Equipment Co. | 219 | B |
| *Cole Mfg. Co., R. D. | 228 | B E |
| *Coleman Co., Inc. | 270 | T |
| Columbia-Geneva Steel Div. | 66 | O |
| Columbia-Southern Chem. Corp. | 26 | C |
| Commercial Factors Corp. | 2nd Cover | N |
| *Continental-Diamond Fibre Co. | 242 | T |
| *Cook-P & N Machine Co., Inc. | 142 | E |
| *Crane Co. | 243 | H |
| *Crane Mfg. Co. | 240 | L |
| *Crompton & Knowles Loom Wks. | 13 | R |
| Crucible Steel Co. | 63 | O |
| Cutler-Hammer, Inc. | 75 | F |
| Dana Warp Mills | 265 | G |
| *Darnell Corp., Ltd. | 216 | P |
| *Dary Ring Traveler Co. | 244 | T |
| Dayton Rubber Co. | 48-49 | RT |
| Deutscher, Spinnereimaschinenbau, Ingolstadt | 39 | T |
| Dilts Machine Wks. | 187 | E |
| *Dinsmore Mfg. Co. | 229 | E |
| Dodge Mfg. Corp. | 80 | Q |
| *Dommerich & Co., Inc., L. F. | 36 | N |
| Dow Corning Corp. | 225, 252 | C |
| *Draper Corporation | 1, 151 | RT |
| *duPont de Nemours & Co., Textile Fiber Dept. | 227 | G |
| *Durant Mfg. Co. | 258 | K |
| Edroy Products Co. | 266 | N |
| Emerson Apparatus Co. | 234 | K |
| Erick-Gross Corp. | 222 | L |
| Eriez Mfg. Co. | 214 | T |
| Fairgate Rule Co. | 271 | K |
| Falls Yarn Mills | 236 | G |
| *Fidelity Machine Co. | 236 | T |
| *Finnell System, Inc. | 28 | D |
| Fiske Bros. Refining Co., Lubriplate Div. | 248 | M |
| *Foster Machine Co. | 18 | T |
| Foxboro Co., The | 250 | K |
| Frankl Associates, Ernest L. | 266 | R |
| Franklin Process Co. | 17 | G |
| Fuller Brush Co. | 184 | B |
| Gates Rubber Co. | 67 | Q |
| General Chemical Div., Allied Chem. & Dye Corp. | 159 | C |
| General Dyestuff Corp. | 35 | C |
| *Gessner Co., David | 257 | E |
| Globe Dye Works | 194 | G |
| Goodrich Co., The B. F. | 15 | Q |
| Goodrich Chemical Co., B. F. | 179 | C |
| Goodyear Tire & Rubber Co. | 9 | Q |
| Guardian Chemical Co. | 234 | C |
| Gubelin International Corp. | 78 | T |
| Gulf Oil Corp.—Gulf Refining Co. | 51 | M |
| Hardwood Mfg. Co., The | 253 | R |
| *Haskell-Dawes Mach. Co., Inc. | 254 | T |
| *Hayssen Mfg. Co. | 193 | P |
| *Heim Co. | 186 | R |
| Heineman Corp., O., Div. of Aetna Industrial Corp. | 197 | G |
| Hermas Machine Co. | 232 | E |
| Hinde & Dauch Paper Co. | 180 | P |
| Hofmann & Co., Alfred | 283 | F I |
| *Howard Bros. Mfg. Co. | 52 | T |
| Hunt Loom & Mach. Wks., Inc. | 221 | Q |
| *Huyck & Sons, F. C. | 258 | E |
| Hyatt Bearings Div., General Motors Corp. | 207 | O Q |
| Industrial Rayon Corp. | 47 | G |
| Industrie-Werke Karlsruhe | 285 | E |
| *Ingersoll-Rand Co. | 14 | H |
| *Ives Co., L. T. | 246 | I |
| Jenkins Bros. | 46 | H |
| *Jiffy Textile Marker Co. | 267 | E I R |
| *Johnson Corp. | 271 | H |
| Kalman Floor Co., Inc. | 236 | B |
| Keever Starch Co. | 181 | C |
| Kidde & Co., Inc., W. | 239 | T |
| Kold-Hold Mfg. Co. | 190 | E O |
| Kuljian Corp., The | 269 | N |

| | | |
|---|---|---|
| *Lambeth Rope Corp. | 265 | RT |
| *Lane & Bros., Inc., W. T. | 256 | P |
| *Lestershire Spool & Mfg. Co. | 206 | R |
| Lincoln Engineering Co. | 138 | M |
| *Link-Belt Co. | 7, 59 | Q |
| *Lockwood Greene Engineers, Inc. | 16 | N |
| *Loper Co., Ralph E. | 271 | N |
| *Lowell Shuttle Co. | 188 | R |
| Lubriplate Div., Fiske Bros. Refining Co. | 248 | M |
| Lunkenheimer Co. | 79 | H |
| Manhattan Rubber Div. | 61 | Q |
| Maple Flooring Mfrs. Assn. | 200 | B |
| *Mathieson Chemical Corp. | 2 | C |
| *McBride Co., Inc., Ed. J. | 218 | R |
| *McCaskie, Inc., Wm. | 226 | R |
| McCreary Machine Wks. | 169 | E |
| *Meese, Inc. | 260 | P |
| Mellor, Bromley & Co., Ltd. | 204 | L |
| *Merrow Machine Co. | 255 | E |
| *Milton Machine Works, Inc. | 230 | R |
| Minneapolis-Honeywell Reg. Co., Industrial Div. | 68-69 | K |
| Mobilift Corp. | 182 | P |
| Moisture Register Co. | 238 | K |
| Montgomery Bros. | 259 | C |
| *Monsanto Chemical Co., Textile Chem. Dept. | 53 | C |
| Müller, Jakob | 266 | R |
| *Nash Co., J. M. | 251 | D RT |
| National Aniline Div., Allied Chem. & Dye Corp. | 29 | C |
| National Ring Traveler Co. | 265 | T |
| National Tube Div. | 66 | O |
| Nopco Chemical Co. | 189 | C |
| Oakite Products, Inc. | 286 | C |
| Oilgear Co., The | 65 | H Q |
| *Onyx Oil & Chemical Co. | 81 | C |
| *Perkins & Sons, Inc., B. F. | 62 | E |
| Pick Mfg. Co. | 261 | E |
| Pittsburgh Coke & Chem. Co. | 136 | C |
| Pittsburgh Plate Glass Co., Fiber Glass Div. | 203 | G |
| *Platt Bros. (Sales) Ltd. | 22-23 | T |
| Pneumafil Corp. | 233 | T |
| Polymer Southern, Inc. | 232 | C |
| Potts Co., Horace T. | 76 | H |
| Powell Co., Wm. | 58 | H |
| Precision Gear & Machine Co. | 264 | Q T |
| *Prince, Smith & Stells | 24-25 | T |
| *Proctor & Schwartz, Inc. | 32 | E T |
| *Pure Oil Co., The | 12 | M |
| Radio Shack Corp. | 238 | F |
| Raybestos-Manhattan, Inc., Manhattan Rubber Div. | 61 | Q |
| Reeves Pulley Co. | 72-73 | Q |
| *Reiner Inc., Robt. | 217 | L R |
| Richmond Oil, Soap & Chem. Co. | 240 | C |
| *Riggs & Lombard, Inc. | 56 | E |
| *Rohm & Haas Co. | 237 | C |
| Rome Soap Mfg. Co. | 265 | C |
| *Roy & Son Co., B. S. | 257 | T |
| Ryerson & Son, Inc., J. T. | 226 | O |
| *Saco-Lowell Shops | 6 | T |
| *Sargent's Sons Corp., C. G. | 209 | E T |
| Scherr Co., Inc., George | 267 | K |
| Schlafhorst & Co., W. | 11 | RT |
| Schlumberger & Cie | 251 | T |
| Shore Instrument & Mfg. Co., Inc. | 269 | K |
| Sinclair Refining Co. | 77 | M |
| *Sipp-Eastwood Corp. | 202 | R |
| Sirrine Co., J. E. | 3rd Cover | N |
| *Smith, Drum & Co. | 74 | E |
| Snap-On Tools Corp. | 198 | B H |
| Societe Alsacienne De Constructions Mecaniques | 21 | T |
| Socony-Vacuum Oil Co. | 163 | C |
| Solvay Process Div., Allied Chem. & Dye Corp. | 155 | C |
| *Sonoco Products Co. | 147 | T |
| *Southern Shuttles Div., Steel Heddle Mfg. Co. | 171 | R T |
| Spindles, Motors & Machines, Ltd. | 78 | |
| Square D Co. | 167 | F O |
| *Standard Pressed Steel Co. | 267, 272 | L |
| *Stop-Motion Devices Corp. | 253 | C |
| Sun Oil Company | 130 | |
| Superior Combustion Industries, Inc. | 268 | Q |
| *Supreme Knitting Mach. Co., Inc. | 213 | L |
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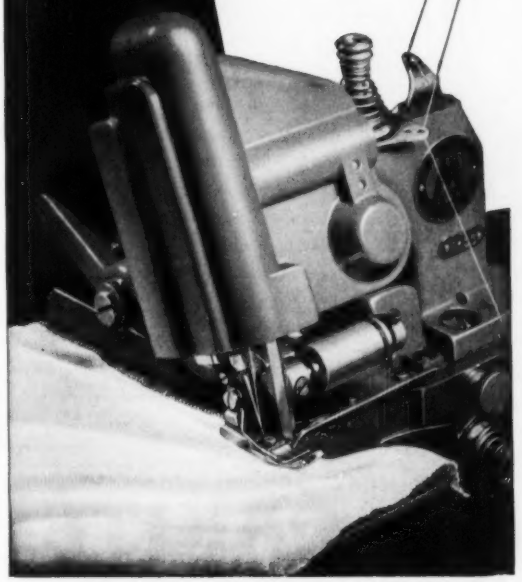

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|---|---|---|
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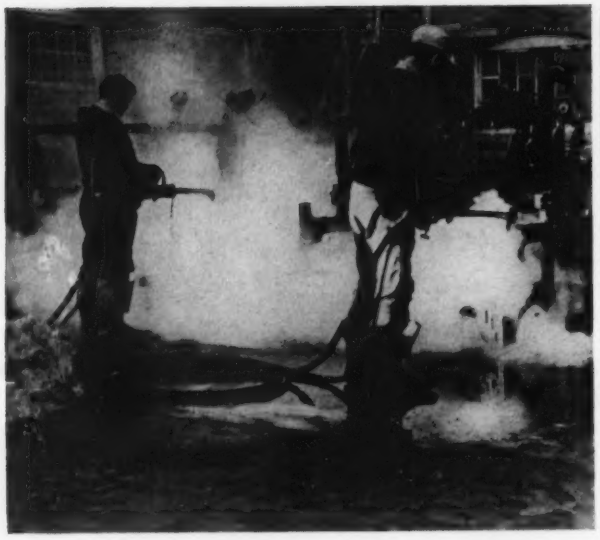
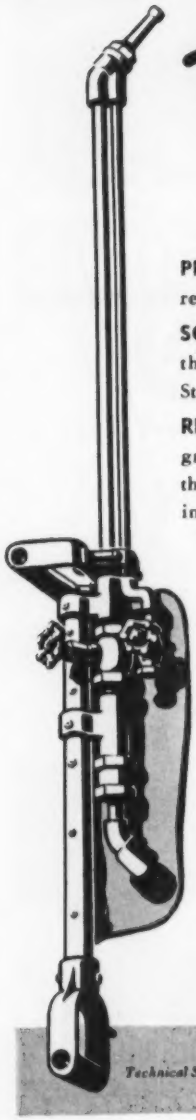
| Taylor-Stiles & Co. | 230 | T |
| Tennant Co., G. H. | 196 | B |
| Tennessee Coal & Iron Div. | 66 | O |
| Texas Co., The | 4th Cover | M |
| Textile Banking Co. | 175 | N |
| Textile Machinery Import Co. | 54 | E R |
| *Textile Machine Works | 82, 149 | L |
| Thomson Industries, Inc. | 241 | Q |
| *Tompkins Bros. Co. | 220 | I |
| Torrington Co., The (Needles) | 43 | L |
| Torrington Co., The (Bearings) | 195 | O Q |
| Turbo Machine Co. | 5 | L |
| *Twin Disc Clutch Co. | 208 | Q |
| U. S. Rubber Co., Mechanical Goods Div. | 205 | T |
| U. S. Steel Corp. | 66 | O |
| U. S. Steel Supply Div. | 66 | O |
| U. S. Testing Co. | 268 | N |
| *Universal Winding Co. | 160 | T |
| Uster Corporation | 247 | K |
| Utica Novelty & Mill Spec. Co. | 269 | E |
| *Van Vlaanderen Machine Co. | 165 | E |
| *Veeder-Root, Inc. | 50 | K |
| Victor Chemical Works | 10 | C |
| Virginia-Carolina Chemical Corp., Fiber Div. | 201 | G |
| WAK Industries | 272 | K |
| *Warner & Swasey Co. | 40-41 | R |
| *Wayne Mfg. Co. | 238 | T |
| Western Felt Works | 19 | L RT |
| Westinghouse Electric Corp., Micarta Div. | 215 | O |
| Motors & Controls | 44-45 | F |
| Sturtevant Div. | 42 | A |
| *Whitin Machine Wks. | 27 | T |
| Wildman Mfg. Co. | 235 | L |
| Wood's Sons Co., T. B. | 262 | Q |







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PROFESSIONAL SERVICES

Barnes Textile Associates ..... 262
Eaton & Bell ..... 274
Kuljian Corp. ..... 269
Loper & Co., R. E. ..... 271
Sirrine Assoc., J. E. ...Third Cover

SEARCHLIGHT SECTION
*(Classified Advertising)*
H. E. Hilty, Mgr.

EMPLOYMENT
Positions Vacant .....273, 274
Selling Opportunities Offered. 273
Positions Wanted .....272, 273
Employment Services ..... 272

BUSINESS OPPORTUNITIES
Offered ..... 274

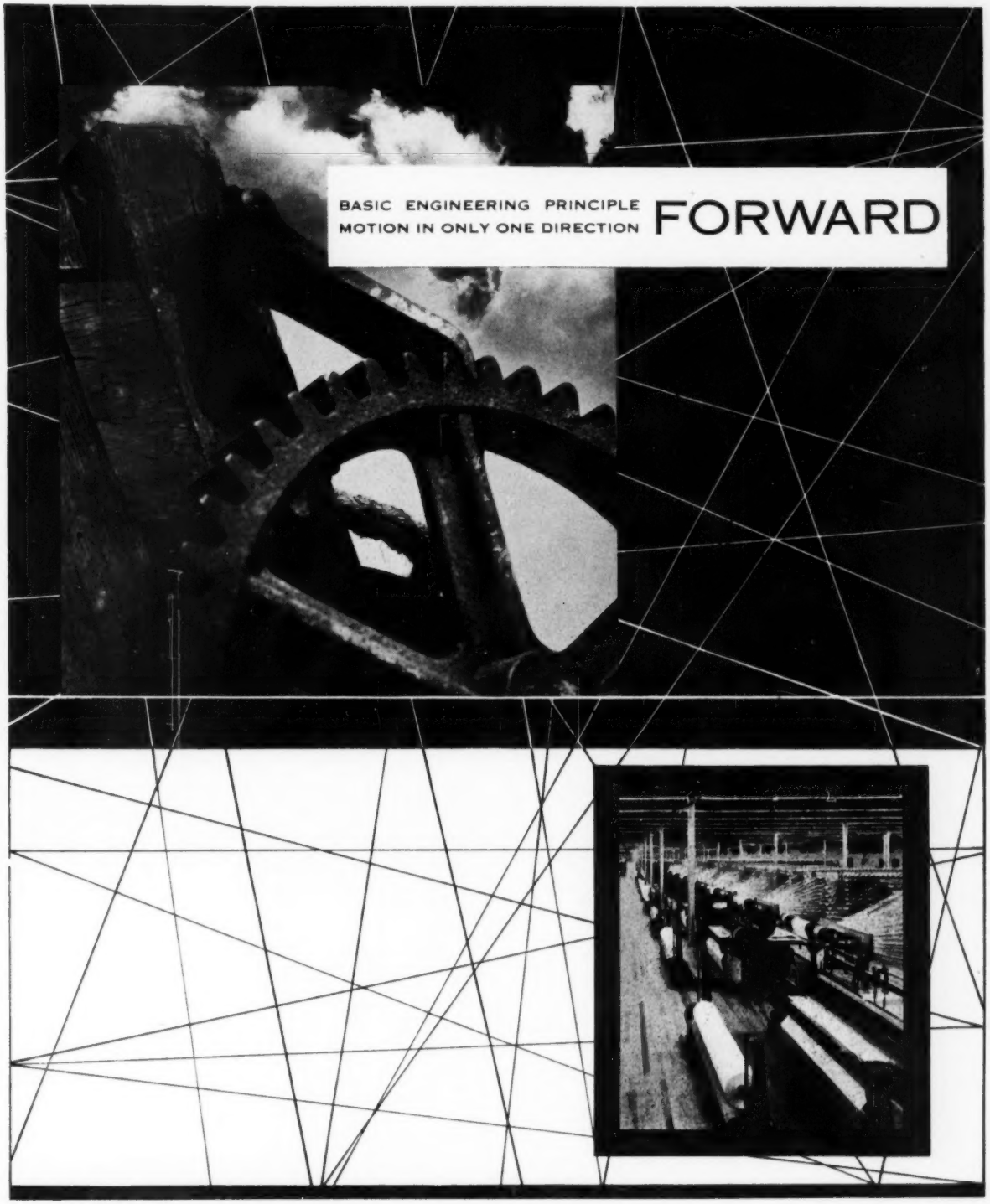
PROPERTY
For Sale ..... 274
Wanted ..... 274

EQUIPMENT
(Used or Surplus New)
For Sale .....274-281

WANTED
Equipment ..... 274
Miscellaneous ..... 274

ADVERTISERS INDEX

A.B.C. Personnel Inc. ..... 273
Ajax Electric Motor Corp. ..... 279
Allan Yarn Mills ..... 274
Bialek & Co., Theodore ..... 278
Blank Co., Inc., A. & M. ..... 277
Blank, Moe ..... 280
Bresani, Joseph ..... 280
Celanese Corporation of America 274
Collins & Aikman Corp. ..... 275
Consolidated Products Co., Inc. . 281
Demerell, Wm. ..... 281
Eastern Textile Corp. ..... 278
Electric Equipment Co. ..... 280
Fitzgerald, James F. ..... 276
Gaines Textile Machinery Co., Inc. 279
Industrial Products of America. 276
Lewith Machinery Corp., Wilson 281
Machinery Sales Corp. ..... 280
McCaffrey & Son Inc., L. J. .... 279
McDowell Associates Inc. ..... 277
Miller Machinery Co. ..... 279
New England Products Co. .... 274
Norca Machinery Corp. ..... 274
Pennsylvania Spool & Equipment Co. ..... 280
Rabinowitz & Sons, Wm. ..... 279
Raymond Service Inc., Chas. P. 273, 274
Republic Textile Equipment Co. 276
Sackner Products ..... 280
Stave & Kessler ..... 278
Textile Auxiliaries ..... 281
Velvet Textile Corp. ..... 280
Walther Fabrics, Inc., John ... 281
Wheeler Company, Frank W. .. 281

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